
Competition or Collaboration? Head Start Enrollment During the Rapid Expansion of State Pre-kindergarten

Educational Policy
26(1) 96–116
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DOI: 10.1177/0895904811428973
<http://epx.sagepub.com>



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Abstract

Over the past decade states have surpassed the federal Head Start program as the primary public funder of preschool slots. This paper investigates trends in Head Start enrollment in the context of increased state investment in early childhood. Using national, longitudinal data I find no evidence Head Start programs in states with expanding state programs experienced drops in enrollment. However, programs operating near expanding pre-kindergarten programs serve higher percentages of children age three and younger. The results suggest that Head Start programs, particularly those located near expanding pre-kindergarten programs, may be reinventing themselves in response to the expanding state sector.

Keywords

preschool education, early care and education, federal policy, state policies

Head Start, the federally funded early childhood intervention introduced in 1965, serves more than 900,000 low-income children through nearly 50,000

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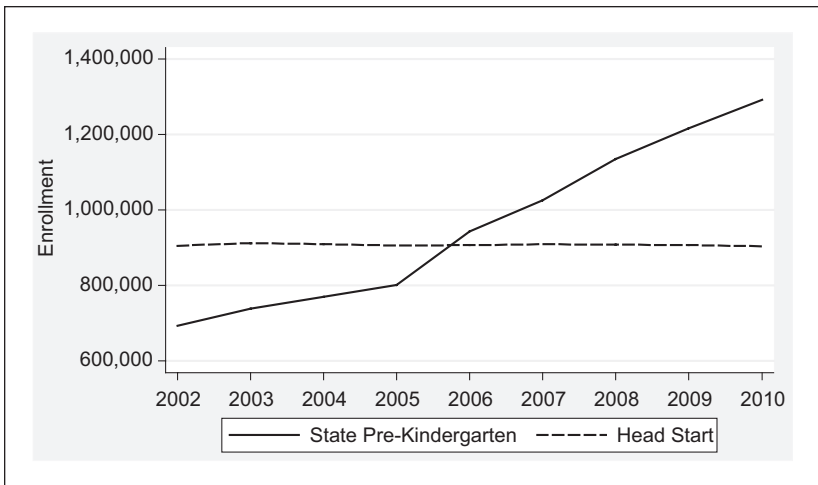


Figure 1. Head Start & pre-kindergarten enrollment, 2002-2010

classrooms across all 50 states (Administration for Children & Families, 2010b). Historically, Head Start was the primary public provider of early childhood education and care. When the program was introduced as part of the War on Poverty, less than 10% of 3- to 5-year-olds were enrolled in *any* type of preprimary programs and fewer than half of the states even offered kindergarten (Bianchi, 2000; Zigler, Gilliam, Jones, & Styfco, 2006). Today circumstances are different. The majority of 4-year-olds spend time in a pre-school and public investment in early childhood has grown dramatically.

Between 1990 and 2009, the number of 3- to 5-year-olds enrolled in *public* preschool programs more than doubled, growing from 1.2 million to 2.7 million children (U.S. Census Bureau, 2011). Over the past decade, increased state-level investment has been particularly pronounced, more than doubling from US\$2.4 billion in 2002 to more than US\$5.4 billion in 2009 (Barnett et al., 2010; Barnett, Robin, Hustedt, & Schulman, 2003). This upturn in state spending exemplifies not just the expansion of public provision in general but also a shift across government sectors in public sponsorship of early childhood programs. States recently surpassed the federal Head Start program to become the primary public providers of early childhood programs. In fact, as Figure 1 shows, between 2001 and 2008, Head Start enrollment has been stable while enrollment in state pre-kindergarten (pre-k) rose from 693,000 to 1.3 million children (Barnett et al., 2010, 2003).

A large and growing body of literature aims to measure the impacts of Head Start, state pre-k, and other early childhood interventions and to

compare them with respect to efficacy and efficiency (Currie, 2001; Gormley, 2007; Gormley, Phillips, Adelstein, & Shaw, 2010; Henry, Gordon, & Rickman, 2006; Puma et al., 2010; Wong, Cook, Barnett, & Jung, 2008). However, far less research has addressed how early childhood programs respond to one another, an especially salient issue in light of the expansion of state early childhood programs relative to Head Start. Given that Head Start serves the nation's poorest children—precisely those children who stand to gain the most from early childhood intervention (Bassok, 2010a; Magnuson, Ruhm, & Waldfogel, 2007)—it is worthwhile to examine how the program has been influenced by the expansion of state pre-k.

There are ways in which a growing state pre-k program could pose a threat to Head Start. In the early 1990s, Edward Zigler, one of Head Start's founders, and his coauthors wrote, “Rather than being complementary or supplementary efforts, Head Start and the state preschools are often parallel, if not opposing forces” (Zigler, Styfco, & Gilman, 1993, p. 27). They described the expansion of the preschool movement as potentially “the biggest challenge the program has ever faced” (p. 27). At the heart of their concern was a belief that state preschools would create competition for children, teachers, funds, and facilities. Indeed, recent research suggests that the expansion of state preschool made it more challenging for Head Start programs to recruit or retain teachers (Ackerman, 2004; Bassok, 2010b).

On the other hand, it may be that through cross-sector collaborations Head Start and state pre-k programs can provide more comprehensive services than either program would provide individually. Head Start has never been able to reach all eligible children. The program currently serves approximately half of eligible 4-year-olds and a lower percentage of eligible 3-year-olds (Children's Defense Fund, 2005; Zigler et al., 2006). Furthermore, the Early Head Start program, which is targeted toward infants and toddlers, serves fewer than 10% of eligible children (Children's Defense Fund, 2005). The expansion of state pre-k may lead to an increase in the total number of children—particularly very young children—who receive services. In addition, most pre-k programs offer half-day classes, which may not be practical for low-income parents. Collaboration between state and federal early childhood programs may lead to blended programs that combine resources to provide full-day services.

One primary goal of this study is to understand how these two programs—which are administered by different levels of government, with different funding mechanisms, different regulations, and oftentimes different primary goals—are coexisting in a time of great change in the early childhood education landscape. The issue of intergovernmental relations in early childhood education is particularly timely. This is not only because of the substantial

shift toward states as the primary funder of early childhood education programs but also because of the recently announced Race to the Top—Early Learning Challenge (RTT-ELC), a federal initiative jointly administered by the Departments of Education and Health and Human Services. RTT-ELC will allocate approximately US\$500 million dollars to states through a competitive process, with the goal of improving access and quality of early childhood interventions. Although official guidelines for the competition have not been finalized, a key aim is to create integrated systems that effectively pool resources and foster collaboration across the complex network of local, state, and federal early childhood initiatives.

To date, little research has examined the relationship between state and federal early childhood education initiatives. This article aims to fill that gap. It proceeds as follows: In the next section I provide a brief overview of Head Start and state pre-k initiatives. I discuss ways in which the two programs can and do collaborate as well as challenges to collaborative efforts. In the third and fourth sections, I introduce my data and methodology, and in the fifth I present results. A final section concludes with a discussion of policy implications, focusing on the current and future role of Head Start within a more diverse early childhood landscape.

Background

State Pre-K

Forty states currently operate state pre-k programs, but they vary substantially in their scope (Barnett et al., 2010). Although nationwide nearly 30% of 4-year-olds are served, at the state level the percentage served ranges from 1% in Rhode Island to 71% in Oklahoma. Most states target their programs toward low-income children, though a handful offer universal, voluntary access. Rates of expansion also vary; some states are maintaining or gradually expanding their programs and others implement pre-k practically overnight. Most notably, when Florida introduced its “Voluntary Pre-Kindergarten” program in 2005, the percentage of children enrolled in state pre-k rose from 0% to 46.5% in a single year.

Like enrollment levels, per-pupil expenditure provides an indicator of states’ commitment to early childhood, especially because states with limited resources may make trade-offs between quality and access. Although higher expenditures do not guarantee high-quality interventions, the most compelling evidence we have of long-lasting and meaningful preschool effects systematically comes from intensive and relatively costly programs (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; Reynolds, Temple, White, Ou, &

Robertson, 2011; Schweinhart et al., 2005). Among states with pre-k programs, spending ranges from US\$115 per child in Arizona to US\$11,578 in New Jersey (Barnett et al., 2010).¹ Notably, only four states allocate as much per child as average Head Start allocations, which were US\$7,600 in 2010 (Administration for Children & Families, 2010b; Barnett et al., 2010).

Head Start

Comparisons of Head Start and pre-k expenditures must be made with caution because pre-k programs typically focus more on academic skill building than do Head Start programs that offer a more comprehensive range of services for both Head Start children and their families. Indeed, the stated purpose of Head Start is to “promote school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social and other services to enrolled children and families” (Administration for Children & Families, 2010a). Furthermore, whereas Head Start programs serve children ages 3 to 5, to date pre-k programs have been targeted primarily toward 4-year-olds. Although 22 states offer pre-k programs for 3-year-olds, nationwide only 4% of 3-year-old children are enrolled, and no state serves more than 20% of 3-year-olds.

In recent years, particularly under President Bush administration, policies have been introduced to shift Head Start toward a greater emphasis on its cognitive and academic components over its social and health services. For instance, in the fall of 2003, Head Start mandated standardized literacy skills testing for all children and President Bush proposed moving the program from the Department of Health and Human Services to the Department of Education. He also proposed that Head Start turn over control of program administration to the states through a block grant. This proposal represented a fundamental change to program governance as Head Start is characterized by a highly decentralized system of program administration. It is unique in that Federal funding is provided directly to local programs rather than to states. Proponents of this devolution argued that states are in a better position to run early childhood programs and to strategically blend resources from multiple early childhood funding streams. However, proposals to move forward with this type of shift—even in only eight states—were met with fierce opposition from the Head Start community who argued that a state-run system would be less responsive to families’ health and social needs (Gilliam & Ripple, 2004; National Head Start Association, 2003). These heated debates over the goals and organization of Head Start highlight the program’s strong sense of identity and the extent to which it is viewed as providing services that are broader than a typical state preschool.

Head Start and State Pre-K as Competitors?

At times, the expansion of state pre-k has been framed as a threat to Head Start. For instance, in 2003, when the Government Accountability Office investigated high levels of underenrollment at Head Start, one of the most common explanations cited by personnel in Head Start regional offices was competitive pressures from nearby programs such as pre-k (Government Accountability Office, 2003). One official indicated the expansion of a state pre-k program in Michigan led to a shortfall of almost 2,000 children. Raden (1999) describes how the introduction of universal pre-k in Georgia was met with resentment and distrust from the Head Start program who viewed the program as a source of competition for students.

The results from the Head Start Impact Study, a randomized experiment examining the impact of program participation, as well as the growing body of research on the impacts of state pre-k programs have, not surprisingly, led to comparisons of the two programs' efficacy (Fitzpatrick, 2008; Gormley & Phillips, 2005; Puma et al., 2010). Wong et al. (2008) have warned that due to differences in research design the existing evidence does not allow for meaningful comparisons between the two programs. Existing studies of state pre-k programs tend to focus on program impacts with respect to academic skills, which are only one of a set of outcomes that Head Start seeks to influence. Furthermore, although the Head Start impact study provides experimental evidence about the program's efficacy, I am aware of no randomized experiment evaluating the impact of state pre-k. Despite these issues, Besharov and Higney (2007b) conclude that Head Start's impact pales in comparison to pre-k. They also argue that Head Start has a declining reputation among low-income parents who, they claim, prefer pre-k or other child care arrangements over Head Start (Besharov & Higney, 2007a).

Anecdotal evidence suggests that although low-income families stand to benefit from the comprehensive services Head Start provides, parents sometimes opt for pre-k because they view it as providing a greater academic advantage or they worry about the stigma associated with a means-targeted intervention (Matthews, 2010). If these concerns are prevalent, we would expect Head Start programs operating in the context of expanding pre-k programs see overall drops in enrollment or shifts away from serving children who are eligible for pre-k.

Head Start and State Pre-K as Collaborators?

There are also ways in which Head Start programs might benefit from state investment in early childhood education. First, 16 states opt to supplement

federal Head Start resources in order to create additional slots or support quality improvements (Barnett, Epstein, Friedman, Sansanelli, & Hustedt, 2009). For instance, rather than operating a separate pre-k initiative, the Oregon Head Start Pre-Kindergarten program pools federal and state resources to strengthen a combined system. Other states do not offer direct supplements to Head Start but allow Head Start programs to apply for pre-k resources and operate pre-k classrooms. In fact, 18% of state-funded pre-k classes are actually operated by a Head Start grantee (Gilliam, 2008). Access to state resources may help Head Start programs make their services available to a higher percentage of children.

Even if no direct resources are gained, Head Start may benefit through collaborative relationships with nearby pre-k programs. The 2007 Head Start reauthorization encouraged governors in every state to create a "State Advisory Council on Early Childhood Education and Care" to improve collaboration between Head Start, pre-k, and other early childhood providers and also set aside resources to create a post of State Director of Head Start Collaboration who would serve as a liaison between Head Start and state agencies providing early childhood education. There are now Head Start Collaboration Offices in every state, and more and more examples of successful collaborations (Stebbins & Scott, 2007; Wat & Gayl, 2009).

The District of Columbia's Public Schools (DCPS) provides a unique example. In 2010, DCPS fully merged their Head Start and pre-k programs into a single schoolwide model. By combining local and federal funds, they now offer a full-day program to all 3- and 4-year-old children enrolled in any of 68 Title 1 elementary schools. Prior to this blending, limited Head Start slots meant that approximately 1,500 Head Start-eligible children enrolled instead in pre-k classrooms. The collaboration allowed these children and others who missed the eligibility cutoff for Head Start to have access to comprehensive services, including home visits, health and developmental screenings, and nutritious meals. To the extent that these types of collaborations are taking place more frequently, we may expect that Head Start programs functioning near pre-k programs are able to offer more full-day services.

This Article's Contribution

Early childhood literature has largely treated state and federal programs as though they were functioning in isolation, ignoring how programs may influence one another. Anecdotes suggest that pre-k expansion creates competitive challenges for Head Start, but there has been little empirical exploration of this matter. Using data from every Head Start program nationwide linked to pre-k enrollment data, I describe the relationship between proximity to an expanding pre-k program and Head Start's enrollment.

Data

Head Start

The analysis in this article combines longitudinal data from four sources. The core data come from Head Start Program Information Reports (PIR). PIR are mandatory surveys collected annually from every Head Start “delegate” (or program) nationwide and are available from 1988 onward.³ In this article I consider four outcome measures: (1) overall enrollment in Head Start, (2) the percentage of Head Start enrollees who are under age 4, (3) the percentage of Head Start children who are enrolled for 6 hours or more (irrespective of whether these hours are funded directly with Head Start resources), and (4) the percentage of Head Start children who are enrolled in Head Start for 2 or more consecutive years.

I focus on the period between 2002 and 2007, which coincides with a period of intense growth with respect to state spending on pre-k.⁴ The analytic sample includes 11,226 observations from 2,075 Head Start delegates.⁵ All models control for delegate-level characteristics, and Table 1 presents descriptive statistics for some of these variables in 2007. About a third of Head Start delegates operate through Community Action Agencies, which are public and private poverty-relief organizations set up in 1964 as part of the “War on Poverty.” Another third operates through non-profit and for-profit organizations, and a fifth operates within the public schools. About a quarter of the children enrolled have unemployed parents and a quarter do not speak English as their primary language.

Pre-K Expansion

The goal of this article is to examine how enrollment patterns of Head Start programs have changed over time and to explore whether there is a relationship between these patterns and state pre-k enrollment. I use data from two sources to capture state pre-k expansion over time. State-level enrollment data are taken from the “State of Preschool Yearbooks,” a set of annual reports released by the National Institute for Early Education Research. These reports, available from 2002 onward, provide the most systematic data currently available about state-funded pre-k initiatives, tracking enrollment, funding levels, and quality standards. I construct a state-by-year panel tracking the percentage of 4-year-olds enrolled in pre-k.

I supplement the aggregated, state-level information with public school, preschool enrollment data from the Common Core of Data (CCD). The CCD, a program of the National Center for Education Statistics, collects data about

Table 1. Means and Standard Deviations of Select Head Start Program and Community Characteristics in 2007

Variable	M	SD	Min.	Max.
Program type				
Community Action Agency (CAA)	32.20	—	—	—
School	20.10	—	—	—
Nonprofit/for profit	35.30	—	—	—
Government (other than CAA, school)	4.54	—	—	—
Indian tribe	7.85	—	—	—
Participants				
% parent Unemployed	26.84	13.76	0	87.86
% high turnover (children enrolled for <45 days)	5.308	6.219	0	100
% enrolled Hispanic	28.34	31.16	0	100
% enrolled non-English primary language	24.51	28.28	0	100
% enrolled Black	24.51	30.50	0	100
% enrolled White	43.25	35.39	0	100
% enrolled Native American	8.618	23.71	0	100
% enrolled Asian/Pacific Islander	2.310	8.268	0	99.24
% enrolled Other	21.31	26.44	0	100
Communities (2000 Decennial Census)				
% unemployed	8.711	6.676	0	100
% urban	80.16	39.89	0	100
% female with AA or higher	24.26	12.09	0	80.75
% Black	16.18	23.76	0	97.45
% Hispanic	13.85	20.36	0	100

Note: $N = 1,784$. Question regarding Hispanic ethnicity is asked independently from the question about race.

every public school in the country and reports annually on the school-level pre-k enrollment.⁶ For the purpose of this study, the primary advantage of the CCD data over the state-level yearbook information is that it provides a localized measure of pre-k expansion in the vicinity of each Head Start delegate. Pre-k initiatives are not implemented systematically across the entire state, with urban and high-poverty regions typically targeted more extensively. Any competitive or collaborative relationship between Head Start and pre-k may be more pronounced for delegates operating in an area that is geographically proximate to the pre-k expansion.

To examine this relationship, I geocode the street addresses of every Head Start delegate and every public school serving children in pre-k or first grade,

converting the addresses into latitude and longitude coordinates. Next, I calculate the geodesic distance between each Head Start and each of these public schools.^{7,8} For each Head Start delegate, I construct a “pre-kindergarten ratio” defined as the ratio of total public school pre-k enrollment within a 30-mile radius relative to total first-grade enrollment in the same region. First-grade enrollment provides a proxy for the size of the full cohort of children in the region who may be eligible to participate in any early childhood program.

Although the CCD provides a more precise measure of each Head Start delegate's proximity to an expanding pre-k program, the data suffer from several important limitations. First, four states—California, Kansas, Kentucky, and Tennessee—submitted either no data or severely limited data on their pre-k enrollment and are, therefore, excluded from the CCD analysis.⁹ This exclusion may pose a concern, particularly because California enrolls more children in Head Start than any other state.

A second limitation is that the CCD data do not capture the full expansion of state pre-k initiatives for states in which pre-k programs are offered through organizations outside the public school system. In 2002, 71% of pre-k enrollees were enrolled in public school classrooms (Barnett et al., 2003). The CCD data do not include children served in nonschool programs and, for this reason, will likely underestimate actual enrollment of children in pre-k programs. At the same time, the CCD data may include any non-Head Start early childhood programs offered at public schools, even if they are not state-funded. This would actually lead to an overestimation of the size of state pre-k. Unfortunately, there are no publicly available data sets that provide total state pre-k enrollment across all settings, disaggregated to the local level. Therefore, I proceed with the CCD data as a proxy for local pre-k slots but use caution in interpreting the results. Note that when aggregated to the state level the CCD pre-k counts are strongly correlated ($r = .78$) with the NIEER (National Institute of Early Education Research) yearbook data.

Contextual Factors

I merge zip-code-level data from the 2000 Decennial Census to account for demographic characteristics of the areas surrounding Head Start delegates. Table 1 shows that most Head Start programs are located in urban areas, with high levels of unemployment and low levels of education among women.

Method

The introduction or expansion of pre-k programs may influence Head Start by providing services that are perceived as a substitute for those provided by

Head Start. In some cases this may lead to a collaborative relationship, whereby together Head Start and state pre-k programs are able to reach more overall children than either program could reach alone. In other cases, however, the state pre-k programs may attract children who would otherwise be served via Head Start slots. I explore whether Head Start delegates near expanding pre-k programs are more likely to experience drops in enrollment and whether they are more likely to offer services that complement those provided by the state pre-k programs.

$$\text{The base model is: (1) Enrollment}_{it} = \beta_0 + \beta_1 \text{Pre-K}_{st} + \beta_2 X_{it} + \beta_3 Z_i + \beta_4 D_t + \varepsilon_{it}$$

“Enrollment” is one of four measures of enrollment at Head Start delegate i at time t in state s (e.g., total enrollment, percentage of children under age 4, etc.). “Pre-K” is one of two measures of state pre-k enrollment; either the overall percentage of 4-year-olds in the state enrolled in pre-k or the ratio of public school pre-k enrollment to first-grade enrollment within a 30-mile radius of the Head Start delegate. X_{it} and Z_i represent vectors of time-varying and time-invariant delegate characteristics. These include center type (school, non-profit/for-profit, government, Indian tribe), child and family characteristics (race, language, parental employment, mobility), and 2000 Census zip-code-level demographic characteristics (urbanicity, racial composition, poverty, and education levels among women). In addition, I account for average K-12 per-pupil expenditure at the state level. D is a set of year indicators (omitting 2002) that account for unobserved factors that are the same across delegates but vary over time. Finally ε_{it} is the residual error. Because I am estimating the relationship between an aggregated, state-level policy variable (pre-k enrollment) and individual delegate outcomes, I cluster my standard errors at the state level.¹⁰

These pooled OLS (ordinary least square) regressions describe the extent to which state pre-k enrollment, either at the state or local level, is associated with overall Head Start enrollment, as well as the characteristics of the children enrolled. For instance, results from these analyses indicate whether Head Start programs operating in areas with higher rates of pre-k enrollment serve fewer children or serve more children who are under age 4. I also run a second set of models that are similar to Model 1 but include delegate fixed effects (and exclude the time-invariant delegate characteristics). These models examine whether *within-delegate* changes in pre-k enrollment are related to within-delegate changes in enrollment. For instance, if there is growth in pre-k enrollment in the area surrounding a particular Head Start delegate, do we observe drops in that particular delegates’ enrollment?

Table 2. Trends in Head Start Enrollment, 2002-2007

Year	Head Start enrollment	Percentage of children < 4	Percentage of children enrolled in full-day Head Start	Percentage of children in their second year of Head Start (or higher)
2002	4.79	38.9	41.9	29.2
2003	4.94	38.5	42.9	30.4
2004	4.94	38.8	42.8	30.5
2005	4.98	39.0	43.1	31.1
2006	5.09	39.9	43.2	31.2
2007	5.11	41.5	43.0	32.2

Note: All descriptive statistics are delegate-level averages. Head Start enrollment refers to the total number of children enrolled at a Head Start delegate divided by 100.

Note that both the pooled OLS and the fixed-effects models describe *associations* between pre-k and Head Start enrollment and do not necessarily imply a causal link between the two. Pre-K expansion is not randomly determined, and states and communities with expanding pre-k programs may have other social, political, and economic forces that influence both pre-k and Head Start enrollment. My goal throughout the article is not to isolate the causal impact of one program on the other but to describe whether enrollment trends in the two programs are related. That said, the panel nature of my data, and the ability to explore within-delegate associations, greatly reduces the risk of omitted variable bias in the analysis.

Results

Table 2 presents national trends between 2002 and 2007 for the four outcome variables examined. Nationwide, I do not observe a drop in the average enrollment at Head Start delegates. In fact, average delegate enrollment rose approximately from 479 to 511 children. There was a 3 percentage points increase in the percentage of children served who are under age 4 as well as a similar increase in the percentage of Head Start children who are enrolled in the program for 2 or more years. The percentage of children served for 6 hours or more per day has remained largely stable over this time period.

The national trends may be masking meaningful differences in enrollment trends depending on the early childhood landscape surrounding the Head Start. Table 3 presents results from empirical analyses exploring the extent

Table 3. Relationships Between Head Start Enrollment Patterns and State Pre-K Enrollment, 2002-2007

		Pooled OLS results						
		"Within" Head Start models (fixed effects)						
	Enroll	% < 4	% full day	% 2+ years	Enroll	% < 4	% full day	% 2+ years
Panel 1: Pre-K enrollment as measured by NIEER yearbooks								
Percentage of 4-year-olds enrolled in pre-k (state)	0.005 (0.013)	0.128*** (0.034)	0.552*** (0.122)	-0.031 (0.026)	0.003 (0.005)	0.024 (0.034)	0.023 (0.042)	-0.025 (0.026)
Adjusted R ²	0.651	0.153	0.262	0.108	0.983	0.657	0.884	0.495
N	10,955	10,955	10,955	10,955	11,185	11,185	11,185	11,185
Panel 2: Pre-K enrollment as measured by the common core of data								
Ratio of pre-K enrollment to first-grade enrollment	0.003 (0.010)	0.110*** (0.019)	0.214* (0.117)	-0.005 (0.025)	-0.000 (0.002)	0.087*** (0.024)	0.022 (0.052)	0.038 (0.033)
Adjusted R ²	0.632	0.149	0.266	0.095	0.980	0.637	0.888	0.469
N	9,500	9,500	9,500	9,500	9,709	9,709	9,709	9,709

Notes: Pre-K = prekindergarten; OLS = ordinary least square; NIEER = National Institute of Early Education Research; Models in Columns 1 to 4 include controls for center type (school, non-profit/for-profit, government, Indian tribe), child/family characteristics (race, language, parental employment, mobility), and 2000 zip-code-level demographic characteristics (urbanicity, racial composition, poverty, and education levels among women). Year indicators are included. The fixed-effects models in Columns 5 to 8 omit the center type and census controls. Standard errors, in parenthesis, are clustered at the state level.

*p < .1 **p < .05 ***p < .001.

to which pre-k and Head Start enrollment patterns are related. The table presents results from four different models, for each of the four outcome variables. The top and bottom panel differ based on the source of the state pre-k data I utilize as the key explanatory variable. Results shown in the top panel use the aggregated, state measure of pre-k enrollment. Those in the bottom panel use the local measure of state pre-k enrollment as measured by the CCD. Results on the left are from pooled OLS regressions and results on the right include delegate fixed effects.

If pre-k programs are providing services that are viewed as comparable or superior to those offered in Head Start, we might observe Head Start delegates in areas with expanding pre-k programs to experience drops in their enrollment levels. Using either the state or local measures of pre-k enrollment, I find no evidence that the number of children enrolled at Head Start is related to pre-k enrollment. The same result holds when I include delegate fixed effects, suggesting no relationship between pre-k *expansion* and changes in Head Start enrollment.¹¹

The next set of results show that Head Start delegates in states with higher pre-k enrollment serve significantly lower percentages of 4-year-olds and, by definition, greater percentages of children aged 3 and younger. For example, using state-level data on pre-k enrollment I find that a 1 standard deviation difference in pre-k enrollment is associated with an increase of about 2 percentage points in the percentage of children under 4 being served, an effect size of about .13. The results also show that, when using the local measure of pre-k enrollment, there is evidence that as pre-k enrollment increases in the 30-mile area surrounding a Head Start program, the percentage of children under age 4 enrolled in that program also increases. Head Start programs may be repositioning themselves to provide programs for a population not typically served by the pre-k system.

In addition, Head Start programs in states with larger pre-k programs, as well as those delegates with higher pre-k enrollment in their immediate vicinity, are more likely to enroll children in full-day programs. The measure of full-day services used in the PIR refers to all children who receive full-day services in Head Start, irrespective of the funding-source that covers the full-day services. Although I am unable to test this hypothesis with the PIR data, one possibility is that the increased provision of full-day services reflects collaborative efforts between Head Start delegates and pre-k programs to pool resources and provide the longer coverage that many low-income families need. The relationship between pre-k enrollment and full-day enrollment only holds up in the pooled OLS context. Once I include delegate fixed effects, I no longer observe this positive relationship.

The final outcome variable is the percentage of children enrolled in Head Start for 2 or more years. If Head Start programs near expanding pre-k programs are losing 4-year-olds and serving younger children, we may expect to see a drop in children experiencing Head Start for more than a year. Children may attend Head Start at age 3, pre-k at age 4, and kindergarten at age 5. To the extent that yearly transitions are difficult on children, such a pattern would be concerning. My analysis shows no evidence of such a decline.

Discussion and Conclusions

This paper set out to explore whether and to what extent Head Start and state pre-k programs functioned as competitors or collaborators. If state pre-k served as a strictly competitive force, we would expect to see drops in Head Start enrollment in programs surrounded by expanding state programs. The findings from the study provide no evidence that Head Start programs near expanding pre-k programs experienced drops in enrollment. The article does show that Head Start delegates operating in states with larger pre-k programs, as well as those with higher pre-k enrollment in their communities, systematically serve higher percentages of children aged 3 years and younger. Furthermore, as pre-k enrollment grows in the communities surrounding a Head Start delegate, I observe an increase in the percentage of children under age 4 served. Overall then, it appears that Head Start and state pre-k programs have managed to coexist and together have been able to reach a broader group of children.

Several study limitations are worth highlighting when discussing these results. First, my measures of both Head Start and pre-k enrollment are imperfect. The Head Start data I use come from delegates, but finer-grain information on enrollment at individual centers would be preferable, as would data that allowed me to definitively determine whether the Head Start slot was funded with federal or state dollars. Similarly, the CCD data I use to provide localized measures of pre-k are unavailable in several states and exclude state pre-k classrooms operating outside of public schools. Efforts to improve early childhood data systems will allow for more precise measures in future analyses. A second limitation is that the design of my study does not allow me to test whether and to what extent the expansion of pre-k *caused* the patterns of Head Start enrollment I observe. More in-depth qualitative examinations of communities in which Head Start and pre-k appear to be coexisting collaboratively may be instructive toward understanding strategies to facilitate these types of relationships. Those caveats notwithstanding, a plausible explanation for the reported results is that Head Start delegates might be

finding ways to redefine themselves and to collaborate with state pre-k to deliver more expansive services to more children.

Recall that 15 years ago Zigler described state preschool as potentially Head Start's greatest threat. In his recent book, he and coauthors convey a more hopeful view stating, "In the coming world of universal preschool, public schools and Head Start can undertake complementary callings that together allow all children to achieve school readiness" (Zigler et al., 2006, p. 236). They envision a future in which Head Start focuses their efforts toward three potential directions: health and social services, very young children (under age 3), or children with disabilities. My findings suggest that, at least with respect to serving younger children, Head Start is moving in this direction.

Although Zigler argues that Head Start should start planning "for eventual succession and for refocusing Head Start's mission on the other unmet needs of young children" (Zigler et al., 2006, p. 218), he also emphasizes that we still have quite a ways to go before enough children are enrolled in state pre-k to make Head Start's current role, as a provider of comprehensive early childhood programs, unnecessary. Nationwide, only 11% of 3-year-olds are served by either Head Start or state preschool programs (Barnett et al., 2010). Ten states have no state-funded pre-k program, and many states that do have programs only reach a small fraction of children who would benefit. Furthermore, the recent recession has stalled expansion efforts and, in some cases, has led to cuts in pre-k programs. Given these circumstances, it appears that Head Start and state pre-k can collaboratively coexist to meet the existing needs of young children.

The 2007 Head Start reauthorization set aside resources for cross-sector collaboration. States were urged to form "State Collaboration Offices" and "State Advisory Councils" to improve coordination across providers of early childhood education and care programs. Similarly, initiatives like the RTT-ELC competition seek to support intergovernmental system building and collaboration. Whereas successful collaborations will require innovative strategies for addressing differences in program eligibility, quality regulations, missions, and approaches, this study suggests that the expansion of pre-k in conjunction with continued Head Start programming may lead to system integration and improved access for children.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Notes

1. In the 2010-2011 school year the state budget included no funding for the Early Childhood Block Grant used to fund state preschool.
2. Due to extensive critiques over the testing effort, the NRS (National Reporting System) was discontinued in the next Head Start reauthorization.
3. Delegates are non-profit, for-profit, and government organizations that receive federal funds to operate one or more Head Start centers.
4. Reliable information about state-level pre-kindergarten (pre-k) enrollment is only available from 2002 onward.
5. Head Start programs that did not employ teachers, enroll students, or operate centers (for instance, those programs that strictly provided home visitation) are excluded.
6. Pre-k students are defined as children “enrolled in a group or class that is part of a public school program taught during the year or years preceding kindergarten, excluding Head Start students unless part of an authorized public education program of a local education agency” (Sable & Hoffman, 2006, p. C-10).
7. Distance was calculated using the “Vincenty” Stata module, which utilizes an ellipsoidal model of the earth (Nichols, 2007). Calculating distance based on the exact latitude and longitude of each school and program increases precision relative to other commonly used methods that base distance on zip-code centroids (Horwitz & Nichols, 2007).
8. Note that addresses are provided for delegates rather than individual Head Start centers. Some delegates include more than one center. In this case, my measure of local pre-k expansion will only account for the area surrounding the delegate and will not fully capture the extent of pre-k that each individual center experienced.
9. Several states have missing or limited pre-k data in a single year. If data are available on pre-k enrollment in the year before and after, I substitute the average value in the missing year. In addition, three states (Alabama, New Jersey, and Vermont) have missing or inaccurate data in specific years. Fortunately, these states provide publicly available data on school enrollment through their department of education webpages, and I fill in the relevant information from these sources.
10. Not doing so could severely bias my standard errors downward, due to the correlation in the error terms for Head Start delegates operating in the same

state (Moulton, 1990). Note that because the key explanatory policy measure (pre-k enrollment) varies across states and years, clustering standard errors at the state-by-year level is another possibility here. There is some debate as to which strategy is preferred. Bertrand, Duflo, and Mullainathan (2004) caution that state-by-year clustering will still bias standard errors downward due to correlation between observations from the same state in different years. Angrist and Pischke (2009) provide an overview of this problem and suggest that clustering one level up at the state level provides one “quick and easy” solution. In the analysis for this article, models adjusted for state-by-year clusters yield similar (though generally smaller) standard errors. I present the state-clustered results as they are more conservative.

11. One possible concern about the models presented in Table 3 is that the PIR (Program Information Reports) measure of Head Start enrollment includes actual Head Start enrollment, irrespective of funding source. To the extent that some Head Start slots may be funded through state pre-k resources, this may lead to a potential double counting of programs, both as Head Start and pre-k. Specification checks that only include Head Start enrollment funded by the Administration for Children & Families yield results that are substantively quite similar to those presented in Table 3. A second specification check limits the sample to the 26 states that fund pre-k programs but do not supplement Head Start. Again, these models yield very similar results to those presented, and if anything, the main result—that within-delegate changes in proximal pre-k enrollment are associated with increases in the enrollment of children under age 4 is more pronounced. Results are available from the author.

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Bio

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