

RESEARCH REPORT SEPTEMBER 2021

# English Learners in Chicago Public Schools

An Exploration of the Influence of Pre-K  
and Early Grade Years



Marisa de la Torre, Silvana Freire, and Alyssa Blanchard

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# Executive Summary

English Learners (ELs) are students from whom much is expected: they are tasked with mastering grade-level content while also learning English, a language in which they are not fully proficient.<sup>1</sup> Mastering academic English—the set of language skills necessary for success in school—is a developmental process that takes at least five to seven years.

Over time, most students who begin school classified as ELs demonstrate English proficiency and their status changes from that of an active EL to a former EL.<sup>2</sup> Because of this, active ELs are concentrated in the early grades.<sup>3</sup> Hence, schools and teachers need to focus educational resources in the early years to support ELs' instructional needs and set them on a path to academic success.

We know that some ELs struggle more in school than others. Previous Consortium work found that ELs who did not demonstrate English proficiency by the end of eighth grade had lower educational outcomes in terms of grades, attendance, and test scores.<sup>4</sup> Importantly, this study also found that academic differences were visible as early as the first grade, between the ELs who would go on to demonstrate English proficiency and

those who did not. This suggests that ELs who struggle the most academically could be identified early on and provided with additional supports.

To provide new and needed knowledge about what student and school characteristics are associated with EL success in pre-k and the early grades, this study examines attendance, grades, test scores, and English proficiency from two groups of Chicago Public Schools (CPS) ELs (14,058 students in pre-k and 16,651 students in the early grades K-3) to answer the following research questions:

- What are the factors associated with stronger outcomes for ELs in pre-k and the early grades?
- To what extent can schools identify ELs who would benefit from additional support?

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**1** An EL is a student “whose home language background is a language other than English and whose proficiency in speaking, reading, writing, or understanding English is not yet sufficient to provide the student with: 1) The ability to meet the State’s proficient level of achievement on State assessments; 2) the ability to successfully achieve in classrooms where the language of instruction is English; or 3) the opportunity to participate fully in the school setting” (Illinois Admin. Code tit. 23, § 228.10 (2017)). We used the term “English Learner” throughout the report to be consistent with Illinois State Board of Education terminology. However, we acknowledge that this is a controversial term, as it focuses on what students do not know instead of the strengths that they bring with them.

**2** An active EL is a student who is currently identified as an EL. These students have not yet reached the state-determined cut score of English proficiency on the English proficiency test. A former EL is a student who was once designated as an EL but demonstrated English proficiency (scored above a certain cut score on the English proficiency test) and exited out of EL status.

**3** For the purposes of this study, “the early grades” refers to the academic years spanning from kindergarten to the third grade.

**4** de la Torre, Blanchard, Allensworth, & Freire (2019).

## Key Findings

### Factors Associated with Stronger Outcomes for English Learners

**Attending a full-day classroom was associated with stronger EL pre-k attendance and kindergarten readiness in terms of English language development and early literacy.** Between 2016 and 2018, only one in five ELs enrolled in a CPS pre-k attended a full-day classroom (19 percent), compared to the district average of 34 percent. ELs who were enrolled in a CPS pre-k full-day classroom attended about 2.5 additional school days, compared to ELs who were enrolled in a half-day class but were alike in all other measured factors. Similarly, we found that ELs in full-day CPS pre-k demonstrated stronger oral English skills and were more likely to demonstrate reading proficiency, relative to similar ELs in half-day classes, by the fall of kindergarten.

**Enrolling earlier in CPS pre-k (prior to age four vs. at age four) supported ELs' kindergarten readiness in terms of English language development and early reading skills.** In our sample, 54 percent of ELs enrolled before the age of four in a CPS pre-k and most of them (90 percent) stayed in the same pre-k site when they turned four. In terms of their English development, ELs who enrolled in CPS pre-k early scored, on average, almost one level higher on a test of English proficiency, compared to ELs alike in all other measurable factors. We also found that ELs who attended a CPS pre-k before the age of four were more likely to demonstrate reading proficiency in the fall of kindergarten. Attendance in pre-k did not differ significantly among ELs who enrolled before or after they were four years old.

**The differences in outcomes were still detectable—even as far as third grade—between students who attended a school-based CPS pre-k and those who did not.** By the time ELs reached third grade, ELs who had enrolled in a CPS pre-k still had slightly stronger

performance than similar ELs who did not enroll in a CPS pre-k. Compared to their peers, third-grade ELs who had enrolled in a CPS pre-k had better attendance, reading and math grades, and test scores, and were more likely to demonstrate English proficiency.

**ELs who received language supports through their schools' Bilingual Education Services had higher attendance and academic outcomes in the long run than students who refused bilingual services in kindergarten.** In kindergarten, ELs who received Bilingual Education Services had lower English proficiency scores in the ACCESS test (particularly in the oral components of speaking and listening) than similar ELs whose parents or guardians refused those services. However, by end of third grade, students who received services were 4 percentage points more likely to demonstrate English proficiency on the ACCESS test, which suggests that ELs who refused services stagnated in their English language development, compared to ELs who received services. ELs who received Bilingual Education Services not only improved in their English development, but also had stronger attendance, grades, and test scores in third grade than similar ELs who refused services.

**Attending higher-rated schools, based on CPS' School Quality Rating Policy, was associated with positive outcomes for ELs in terms of standardized test scores in math, reading, and English proficiency.** After accounting for student and school differences, we found that the rating a school received was positively associated with the scores ELs obtained in their third-grade math and reading NWEA standardized assessments and their English proficiency levels. For example, an average student enrolled in a Level 1+ school, the highest rating, scored in the 54th national percentile on the math NWEA in third grade while a similar student in a Level 2 school, one of the lowest ratings, scored in the 39th national percentile. It is worth noting that a school rating was not associated with ELs' attendance, grades, or whether students demonstrated English proficiency in third grade.

## Identifying ELs Who Would Benefit From Additional Support

**Starting school with low levels of English proficiency was related to lower academic performance, measured by standardized test scores and grades; however, screener data were, in general, not related to attendance.**

When ELs first enroll in CPS they are screened for English proficiency within 30 days of enrollment.<sup>5</sup> More than one-half of ELs served in CPS in pre-k and kindergarten started with low levels of oral English proficiency, as measured by the screener tests. Our study found that lower (and higher) scores on screener tests when students entered pre-k and kindergarten were correlated with lower (and higher) later scores of English proficiency and other assessments in reading and math, commonly administered in English. Those differences by incoming English proficiency persisted even after four years in school and were larger in reading than in math assessments. For example, when comparing students alike in all other student characteristics and school factors who only differed in their screener score in kindergarten, ELs at the entering level (lowest level) in kindergarten scored in the 32nd national percentile in reading and in the 42nd national percentile in math in third-grade standardized tests; while ELs in the expanding level (just below the threshold that designates them as English proficient) in kindergarten scored in the 55th national percentile in reading and 57th national percentile in math. ELs with low incoming screener scores also had lower grades, especially in reading, compared to their EL peers but similar attendance.

**ELs with identified disabilities made progress, but at a slower pace, toward acquiring English skills and most students with identified disabilities had lower attendance.** Among ELs in our two samples, we found 17 percent had an identified disability in pre-k and 12 percent in kindergarten. Most ELs who were identified with a disability were classified as having a developmental delay, followed by students with a speech and language disability, and cognitive disability. ELs with identified

disabilities made progress toward acquiring English skills, but it was slower than the progress of similar ELs with no identified disabilities. These differences emerged very early, even when comparing ELs with similar English proficiency levels upon entering kindergarten.

We also found that ELs with identified disabilities were more likely to miss school, except those with speech and language disabilities. Given the importance of being in school in order to receive services and make progress in learning, this data shows that interventions to improve attendance in the early grades, especially in pre-k and kindergarten, might help ELs with identified disabilities to get the supports they need.

## Considerations

Our findings provide valuable information to help practitioners and policymakers strategize ways to better support ELs and help them succeed in the early grades and beyond. Our work also has insights that could help parents and families make decisions about their children's education, but the responsibility for making changes that would support all ELs belongs with the policymakers and educators who serve them.

## Considerations for Policymakers

- Policymakers may want to prioritize ELs for access to pre-k programs, particularly subgroups of ELs who seem to need additional support, such as ELs with low incoming English skills and ELs with identified disabilities. As ELs have increased access to pre-k services that will benefit their future academic success, policymakers may need to develop strategies around training and retaining a bilingual workforce qualified to teach ELs in early childhood settings.
- Policymakers might consider providing some schools with additional resources to support them and in turn to ensure the success of ELs these schools serve. Our findings demonstrate that some schools, particularly schools with lower school quality ratings, may need additional support to help ELs achieve academic success.

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<sup>5</sup> For more detail on screener tests see the box titled *Screener Tests in Pre-K and Kindergarten* in Chapter 2.

## Considerations for Practitioners

- Once families enroll their ELs in a school, practitioners can help them understand that Bilingual Education Services are beneficial for their students' learning. Without the scaffolding that bilingual services provide, students start falling behind, not only in English skills, but also in mastering the grade level content. Practitioners should ensure that parents who are choosing whether to refuse bilingual services are aware of these potential consequences.
- Practitioners can rely on data from screener tests to support ELs early on. Our findings indicate ELs who start school in the early stages of English development tend to struggle with their academic performance. Practitioners could use interventions that focus on improving reading and listening, as these were two areas in which these students were farther behind, compared to other ELs.
- Practitioners may need to pay particular attention to ELs who are also identified for special education services. Understanding and remedying lower attendance patterns for ELs with disabilities should be a priority for practitioners. In addition, practitioners could help families understand that their children are entitled to both Bilingual Education Services and special education services, as the data shows that students with identified disabilities were more likely to refuse bilingual services.

## Considerations for Parents and Families of ELs

- Families may want to prioritize early enrollment in CPS pre-k and enrollment in full-day programs, when possible. Our findings show that attending public school-based pre-k was related to better outcomes for ELs, both in kindergarten and the third grade, even five years after students attended a CPS pre-k.
- Before deciding about whether their children should receive Bilingual Education Services, parents and guardians should be aware of the long-term benefits of participating in such services. Our results suggest that some of the benefits of bilingual services are not immediately apparent but show up later in a students' education.
- Families looking to enroll their children in CPS could consider the rating of a school as a valuable metric to add among other school characteristics. Our findings suggest that a school accountability rating is a good indicator for an EL's academic success on some dimensions that may matter to parents and families as they consider school choices.

# Introduction

English Learners (ELs) are students from whom much is expected: they are tasked with mastering grade-level content while also learning English, a language in which they are not fully proficient. Because so much is expected from these students, it is important to remember that the responsibility for providing them with a strong and equitable education lies with adults—teachers, school leaders, and policymakers. ELs have unique educational needs, and teachers and schools must provide strong support to help them succeed.

How to best instruct ELs is a matter of particular urgency given the growing number of ELs in the United States. Across the nation, the number of ELs attending public schools increased by 32 percent between fall 2000 and fall 2017.<sup>6</sup> In Chicago Public Schools (CPS), EL enrollment has grown by 35 percent in the last decade, while the district’s total enrollment declined.<sup>7</sup>

Many students are classified as ELs when they enter pre-k and kindergarten. Over time, most students who begin school classified as ELs demonstrate English proficiency and their status changes from that of an active EL to a former EL. Because of this, active ELs are concentrated in the early grades. For example, in 2019, nearly one-half (47 percent) of CPS active ELs were in pre-k through third grade, while only 16 percent of active ELs were in high school. Since elementary schools serve larger numbers of ELs, they may be well-positioned to focus more resources on students in these early years and prepare them for academic success. Public pre-k sites,<sup>8</sup> which have been expanding in recent years, serve large numbers of ELs.<sup>9</sup> In 2019, one

out of every three CPS pre-k students was an EL.<sup>10</sup> As access to public pre-k grows in the district and across the nation, practitioners have the opportunity to provide strong instruction for ELs that will prepare them for kindergarten and set them up for future success.

We know that some ELs struggle more in school than others. Previous work from the University of Chicago Consortium on School Research (UChicago Consortium) found that students who started kindergarten as ELs and demonstrated English proficiency by the end of eighth grade had academic outcomes that were comparable to or stronger than those of CPS students who were never classified as ELs. ELs who did not demonstrate English proficiency by the end of eighth grade had lower educational outcomes in terms of grades, attendance, and test scores.<sup>11</sup> Importantly, this study also found that academic differences were visible as early as the first grade, between the ELs who would go on to demonstrate English proficiency and those who did not. This suggests that ELs who struggle the most academically could be identified early on and provided

<sup>6</sup> Hussar et al. (2020).

<sup>7</sup> Chicago Public Schools [CPS] (n.d.).

<sup>8</sup> Throughout this report we use the term “preschool” as an umbrella term for all formalized early education programs available to three- to five-year-old children prior to kindergarten. When preschool is offered within a school setting, we use the more specific term “pre-k” most commonly used by districts.

<sup>9</sup> ELs in pre-k are often called “dual language learners” rather than “English Learners” to reflect the fact that at this age students are still developing their knowledge of their home languages, in addition to English. However, for the purposes of this report, we will refer to any student classified as not yet fully proficient in English as an English Learner.

<sup>10</sup> CPS (n.d.).

<sup>11</sup> de la Torre et al. (2019).

## Developing a Second Language

In schools, ELs are expected to develop academic English, the language necessary for success in school, in addition to social English, the language of every day communication. Social English is the language students would use to talk to their friends in the playground. It usually takes a couple of years for ELs to develop social English. However, just because students can communicate with their peers, understand teachers' questions, and use every-day English does not mean that they are up to speed in academic English. Their school work and exams may not reflect their social English fluency.

Academic English is more demanding and complex,

and it involves vocabulary in different content areas such as math, science, social studies, and English language arts. ELs must master academic English to understand textbooks, solve mathematical word problems, write papers, and take tests. Without a mastery of academic English, ELs cannot develop the critical-thinking and problem-solving skills needed to understand and express the new and abstract concepts taught in an English-based classroom. Mastering these language skills is a developmental process that takes at least five to seven years, and it can take longer for students who are not strong in their native language when they start school.<sup>A</sup>

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A Collier & Thomas (2009).

with additional supports, such as specific instructional strategies, increased time, and well-trained teachers.

All of the above suggests that ELs, particularly those who might otherwise go on to struggle to demonstrate English proficiency, would benefit from targeted academic support early in their academic careers. However, more information about EL performance in pre-k and the early grades is necessary to help schools set these students up for success. Previous research on ELs in the early grades suggests that some student characteristics, such as having an identified disability and school factors like school climate and quality, are associated with outcomes for ELs.<sup>12</sup> But earlier studies of ELs in the early grades have limits in their applicability: most study only a small sample of students; focus on a subsample of ELs, such as Latinx ELs; or examine limited student outcomes. Previous studies of ELs in pre-k are similarly limited, as most focus on whether pre-k matters for ELs, instead of what aspects of pre-k matter for ELs.

To provide new and needed knowledge about what student and school characteristics are associated with EL success, this study examines outcomes from two samples of CPS ELs in pre-k and the early grades to answer the following research questions:

- What are the factors associated with stronger outcomes for ELs in pre-k and the early grades?

- To what extent can schools identify ELs who would benefit from additional support?

We looked at ELs' performance in terms of attendance, grades, English development, and test scores and explored how these outcomes relate to school contexts and student factors. Most standardized assessment outcomes examined in this study, such as English development and test scores in reading and math, are measured in English, a language that ELs are still learning. As such, looking into ELs' attendance and grades, as well as their test performance in Spanish early literacy skills where available, provides us with information beyond ELs' English skills that helps us to understand their learning more holistically. We included demonstrating English proficiency as an outcome for this study, but prior research has found that developing academic English skills typically takes between five to seven years. So, in the span of years we are examining, we would not necessarily expect many ELs to reach this milestone (see the box titled *Developing a Second Language* for more information).

Bilingual services can be very different, depending on the program model: some ELs receive much of their instruction in their home language, while others are taught exclusively in English with English as a Second Language (ESL) instruction as linguistic support. Other

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<sup>12</sup> Garrett, Davis, & Eisner (2019); Parker, O'Dwyer, & Irwin (2014).



research<sup>13</sup> suggests that the type of bilingual services received matters for ELs, but because of the quality and timeline of the available data, we were unable to analyze the effects of different program models. However, in Chapter 1, we provide evidence on the effect of receiving *any* Bilingual Education Services, and on the early impacts of Dual Language Programs.

Because we want to shed light on what matters for ELs, we conducted our analyses among ELs who have different characteristics and school experiences, rather than comparing ELs to students never classified as ELs. We conducted analyses on two separate samples of CPS ELs which allowed us to learn about different aspects of ELs' experiences in the early years.

- The *pre-k-to-K sample* followed ELs as they transitioned from CPS pre-k to kindergarten. With this analysis, we examined what aspects of the pre-k experience matter for ELs, which is a timely question given the expansion of public pre-k in CPS and throughout the country.
- The *K-to-3 sample* followed ELs from kindergarten through third grade. This analysis provided some evidence on the medium-term effects of ELs' early experiences.

Our two samples include tens of thousands of ELs in CPS who spoke dozens of different languages and brought diverse experiences and strengths to the classroom. These large samples allowed us to learn much about what matters for ELs in the early grades, but ELs who came to CPS after kindergarten were not included in either of our samples (**see Appendix B on p.41 for information about sample selection**). If these students had different experiences and educational needs than other ELs, our study would not address them.

We examined how dozens of student and school factors (**see Appendix A**) related to ELs' outcomes. Thus, while the relationships we report are not necessarily causal, they represent a strong step in determining which factors are most important for EL success. An overview of the study's sample, outcomes, and methodology is presented in the box titled *Sample and Methods Used in This Study* (**see Appendix A, p.37-40 for more details**).

In this report, we highlight those factors most closely associated with ELs' academic performance in the early grades. In Chapter 1, we discuss factors that support EL success, while in Chapter 2, we focus on identifying students who seem to need additional attention, as they are likely to struggle in later years. Finally, we conclude with a discussion of the implications of these findings.

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13 Umansky & Reardon (2014); Collier & Thomas (2004).

## Sample and Methods Used in This Study

### Pre-k-to-K Sample

The *pre-k-to-K sample* includes 14,058 ELs across three cohorts of students who attended a CPS pre-k in the school years 2015–16, 2016–17, and 2017–18, and enrolled in a CPS kindergarten the following year (see **Table A**).<sup>B</sup> The ELs in the sample represented around 40 percent of all pre-k students.

For the *pre-k-to-K sample*, we examined ELs' performance by the time they finished their pre-k year. Specifically, we looked at their attendance rate by the end of pre-k, the English proficiency level score they obtained in the English language screener test (WIDA Model K) they took at the beginning of kindergarten, and their early reading proficiency rate in the Text and Reading Comprehension (TRC) test in the fall of the kindergarten year. Although ELs took the Model K and TRC tests when in kindergarten, because these outcomes were measured at the beginning of the year (fall semester) they represent students' skills after finishing pre-k and are thus appropriate outcomes for our pre-k analyses (see **Appendix A and B for more details on the sample and outcomes**).

### K-to-3 Sample

The *K-to-3 sample* includes 16,651 ELs across two cohorts of first-time kindergarteners in the school years 2014–15 and 2015–16 (see **Table B**). ELs represented around 30 percent of all kindergarten students. Some of the students in the *K-to-3 sample* previously attended a CPS pre-k and some did not (see Chapter 1). We followed these cohorts of students through the third grade (school years 2017–18 and 2018–19).<sup>C</sup> Although all students in the sample were classified as ELs at some point between kindergarten and third grade, some may have demonstrated English proficiency on the ACCESS test by third grade.

For the *K-to-3 sample*, we looked at ELs' outcomes in kindergarten and third grade. In kindergarten, we examined their attendance rate and their English proficiency scores in the ACCESS test, considering all four domains (reading, writing, speaking, and listening) in addition to their composite proficiency level. In third grade, we looked at their attendance rate, grades in math and reading, NWEA-MAP test scores in math and reading, whether they demonstrated English proficiency on the ACCESS test by third grade, and English proficiency scores for students taking the ACCESS test.<sup>D</sup>

**TABLE A**  
Sample Demographics for ELs in the *Pre-k-to-K Sample*

	Analytic Sample pre-k ELs	All CPS pre-k
<b>Number of Students</b>	14,058	34,814
<b>Number of Pre-K Sites</b>	262	371
<b>Male*</b>	53%	51%
<b>Spanish Speakers**</b>	85%	40%
<b>Eligible for Free or Reduced-Price Lunch (FRPL)</b>	92%	87%
<b>Had an Identified Disability***</b>	17%	14%

**TABLE B**  
Sample Demographics for ELs in the *K-to-3 Sample*

	Analytic Sample K ELs	All CPS K
<b>Number of Students</b>	16,651	55,458
<b>Number of K Schools</b>	356	466
<b>Male*</b>	52%	51%
<b>Spanish Speakers**</b>	85%	36%
<b>Eligible for FRPL</b>	93%	83%
<b>Had an Identified Disability***</b>	12%	9%

\* Historically, CPS has collected data that groups students into one of two gender categories: male and female. Not all students identify with one of these categories, and we hope in the future to be able to report data that more fully describes the identities of CPS students.

\*\* Students who speak Spanish at home are considered Spanish Speakers. However, not all Spanish Speakers in CPS (right columns in Tables A and B) are classified as ELs.

\*\*\* We refer to students with an Individualized Education Plan (IEP) as students with an identified disability throughout the report. In CPS, they are also referred to as diverse learners. An IEP is created after a child has been evaluated and found eligible to receive special education and related services.

**B** Our *pre-k-to-K sample* comprises most ELs enrolled in a CPS pre-k, as most four-year-old ELs in a CPS pre-k (about 93 percent) enrolled in a CPS kindergarten the following year.

**C** Eighty-nine percent of ELs in the *K-to-3 sample* remained enrolled in a CPS school by third grade.

**D** Eighty-four percent of *K-to-3 sample* students who remained in CPS in the third grade took the ACCESS test in third grade, while the other 16 percent demonstrated proficiency before third grade.

### Methodology

Our analysis aimed at understanding how outcomes differed among ELs who 1) had different student characteristics, and 2) attended CPS schools with different characteristics. To explore the relationship between ELs' outcomes and student and school factors, we conducted a series of hierarchical linear models (HLM). HLM is a statistical technique used when data are grouped, in our case students grouped within schools. HLM allows for simultaneously investigating the relationships of student and school factors with outcomes, making it more efficient at accounting for variation between students and among schools. ELs in the *pre-k-to-K sample* were nested in their pre-k site, while ELs in the *K-to-3 sample* were nested in their kindergarten school. Analyses were run separately for each sample.

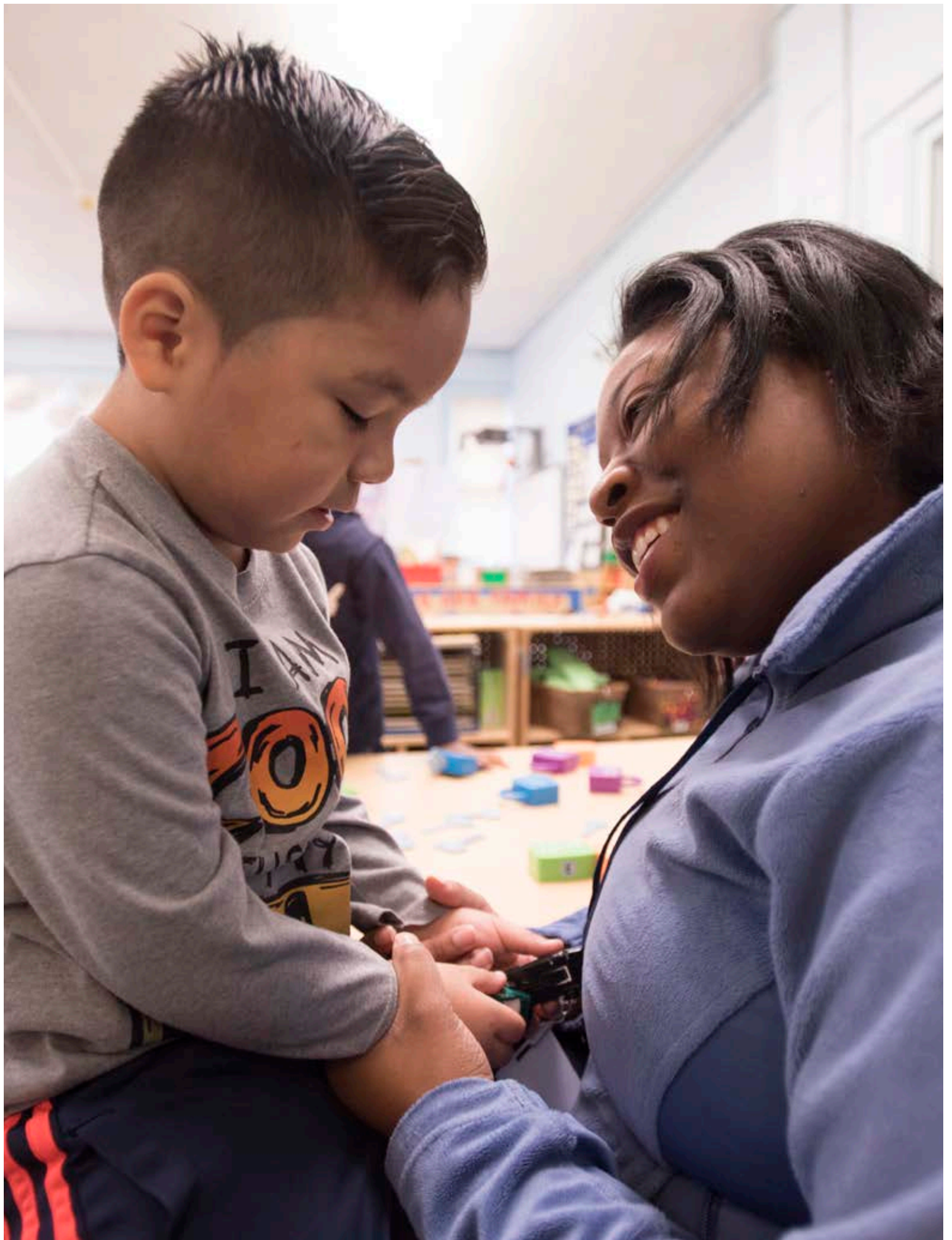
Student characteristics that were accounted for in our HLM models included gender, home language, whether a student was living in a temporary situation, socioeconomic status, age, identified disability, and English proficiency level at the time of enrollment. In addition, we included some individual factors related to choices families made when enrolling their students in CPS such as full-day pre-k enrollment. We also accounted for whether Bilingual Education Services were refused, participation in Dual Language programs, and whether students were enrolled in a school with fewer than 20 students speaking the same language.

School characteristics that were accounted for in our HLM models included the composition of the student body (i.e., racial/ethnic composition, percent receiving free or reduced-price lunch, and percent with identified disabilities), the school's accountability rating, climate measures, ELs' student-body compo-

sition (i.e., percent ELs, number of non-English languages represented, percent of ELs in the early stage of English language development), the ratio of ELs per bilingual and ESL teachers, EL program audit rating, whether a school was a charter, and the grade-level structure of the school (e.g. pre-k-5 or pre-k-8; for further detail on the methodology and variables used in the analyses **see Appendix A**).

Accounting for these student and school factors allowed us to measure the association of a particular characteristic to an outcome. The analysis statistically removed differences that could be explained by other measurable factors. *This means that the relationship of a factor to an outcome can be interpreted as comparing students who are alike on all other measured characteristics except the particular factor of interest.* For example, when we explored differences in outcomes among ELs who attended full-day pre-k vs. ELs who attended half-day pre-k, we compared students who were identical in terms of all the students level characteristics and school factors in our models *except* whether they participated in full-day or half-day pre-k. We can therefore interpret any differences among these groups as differences associated with participation in full-day vs. half-day pre-k.

There is a possibility that unmeasured factors may be responsible for the relationships we found. As such, our analysis does not intend to determine causal impacts of these student and school factors. Because we have accounted for many of the factors related to outcomes that we examined, we believe these analyses are a strong step forward in determining which factors are most important for EL success.



# Factors Associated with Stronger Outcomes for English Learners

The environments and supports that young ELs are exposed to during pre-k and the early grades play an important role in the opportunities these students have, ultimately influencing their academic success. Understanding which factors are related to ELs' academic performance will provide valuable information to practitioners and policymakers who focus on improving the services available to ELs. Parents and families will also benefit from understanding these factors when making decisions about the schools and programs that will best support their children.

In our study, we examine different student and school characteristics to investigate whether they were associated with the performance of EL students. These analyses looked at the relationship between these factors and student outcomes in pre-k, kindergarten, and third grade after statistically accounting for differences that could be explained by other student characteristics and school factors (see **Appendix A** for details on the statistical models).

This section highlights some of the factors that were

associated with ELs' academic success in the early grades.<sup>14</sup> These include attending a CPS pre-k, participating in Bilingual Education Services, and enrolling in a highly rated school. To preview our results:

- Attending full-day programs (vs. half-day) or enrolling earlier in CPS pre-k (prior to age four vs. at age four) supported EL kindergarten readiness in terms of English development and early reading skills. The benefits of attending a CPS pre-k were still detectable even as far as third grade.
- ELs who received home language instruction through their schools' Bilingual Education Services had higher attendance and academic outcomes in the long run than students who refused Bilingual Education Services in kindergarten.
- Attending higher rated schools, based on CPS' School Quality Rating Policy (SQRP), was associated with higher test scores for ELs on math and reading standardized tests and English proficiency assessments.

## Preschool in CPS

Throughout the years, Chicago has made sustained efforts to expand access to and improve the quality of publicly-funded preschool across the city. As early as the 1960s, the city has provided early education services to students most at risk of academic failure through federally-funded programs like Head Start and Child-Parent Centers (CPC). Since 2006, the Preschool for All (PFA) program has also provided state funding to offer quality preschool to three- and four-year-olds. Beginning in 2013, CPS prioritized pre-k enrollment for students who were most likely to benefit from it (i.e., students of color, with special education needs, in temporary living situations, from

low-income families, and/or with a home language other than English). Most recently, efforts to expand full-day pre-k programs came into place through the city's Universal Pre-k (UPK) initiative launched in 2018.

Illinois has a long history of serving ELs in K-12 settings, and since 2008 the state has made explicit efforts to regulate the provision of bilingual services in publicly funded preschools. In 2010, the State Board of Education mandated that starting in 2014-15 (with a compliance deadline of 2016-17), all ELs in public preschools must have a teacher with a bilingual or ESL certification in addition to early childhood education.

<sup>14</sup> We highlight in the report factors that: 1) were statistically significant (i.e., the estimate was precise and showed a positive or negative relationship with outcomes); 2) had a meaningful

relationship (i.e., the size of the estimated coefficients was large compared to the variation in outcomes we observed among ELs); and 3) were important across different outcomes.

## Engagement with a CPS Pre-K

A vast body of literature highlights the importance of early experiences and participation in preschool programs for children’s later academic success.<sup>15</sup> Our study found that a longer exposure to a school-based pre-k (i.e., enrolling earlier than age four, attending a full-day pre-k), was associated with better performance for pre-k ELs in terms of pre-k attendance and early English and reading development by the beginning of kindergarten. In fact, the benefits of attending a school-based pre-k were still detectable even as far as third grade, across different outcomes (e.g., attendance, English proficiency, test scores, grades). These findings are consistent with research in early childhood suggesting that preschool might be particularly beneficial for children from low-income backgrounds or with specific educational needs.<sup>16</sup> For instance, prior studies have shown that attending preschool raises school readiness and English-language proficiency among children of immigrants<sup>17</sup> and low-income Latinx ELs.<sup>18</sup>

In Chicago, publicly-funded preschool services are offered both through district-managed schools and community-based organizations (CBOs). In this study, we only focus on school-based pre-k,<sup>19</sup> with special attention to ELs who enrolled in full-day programs or who enrolled before age four. ELs who did not enroll in a CPS pre-k might have attended another form of preschool, either publicly-funded or private. In that sense, our findings provide an estimate of the relationship between attending a school-based CPS pre-k and early-grades outcomes compared to ELs who did not participate in a school-based program in CPS.

Our analyses did not intend to assess the causal impact of pre-k, but rather to examine the relationship between attending a CPS pre-k and ELs’ early-grades outcomes. This provides relevant information to begin understanding some pre-k factors that may relate to ELs early performance and identify areas for further exploration.

In this section, we highlight the differences in ELs early-grades performance that were related with CPS pre-k enrollment. First, we focus on ELs from the *pre-k-to-K sample*<sup>20</sup> and describe how attending a full-day program or enrolling before age four was associated with their attendance in pre-k and their English and early reading skills measured in the fall of kindergarten. Then, we shift to the *K-to-3 sample* to analyze the extent to which attending a CPS pre-k was related to ELs’ outcomes by the time they reached third grade.

**Between 2016 and 2018, only one in five CPS pre-k ELs enrolled in a full-day pre-k.** In recent years, Chicago has focused on increasing the number of full-day pre-k options available in the city. In our study, we saw an increase in ELs’ participation in CPS full-day programs. The share of ELs from the *pre-k-to-K sample* enrolled in a full-day class more than doubled from only 12 percent in 2016 to 26 percent in 2018. However, across these years, only one in five ELs enrolled in a CPS pre-k attended a full-day classroom (19 percent), compared to the district average of 34 percent.

**Attending a full-day classroom was associated with stronger EL pre-k attendance and kindergarten readiness in terms of English development and early literacy.** Even though availability of full-day pre-k options had been increasing in Chicago, in the years of the study (2016–18) not every CPS pre-k serving ELs was offering a full-day program.<sup>21</sup> Students who enrolled in a full-day classroom during these years differed in some ways from their peers who enrolled in a half-day session. For example, ELs in full-day classes were more likely to be eligible for free or reduced-price lunch, but less likely to have an identified disability when compared to ELs in half-day classrooms (see **Table B.1. in Appendix B**). However, even after accounting for these observed differences among ELs

<sup>15</sup> Camilli, Vargas, Ryan, & Barnett (2010); Phillips et al. (2017); Yoshikawa et al. (2013).

<sup>16</sup> Ladd (2017); Yoshikawa et al. (2013).

<sup>17</sup> Magnuson, Lahaie, & Waldfogel (2006).

<sup>18</sup> Ansari et al. (2017).

<sup>19</sup> CPS offers different types of school-based programs: Head Start (also offered at CBOs), state-funded Preschool for All, Child-Parent Centers, tuition-based programs, and magnet

pre-k programs. This study focuses on pre-k offered in district schools, but we do not differentiate among specific types of school-based programs.

<sup>20</sup> See the box titled *Sample and Methods Used in This Study* in the Introduction for a description of the samples.

<sup>21</sup> In 2016, only 34 percent of pre-k sites serving ELs offered a full-day classroom compared to 52 percent in 2018.

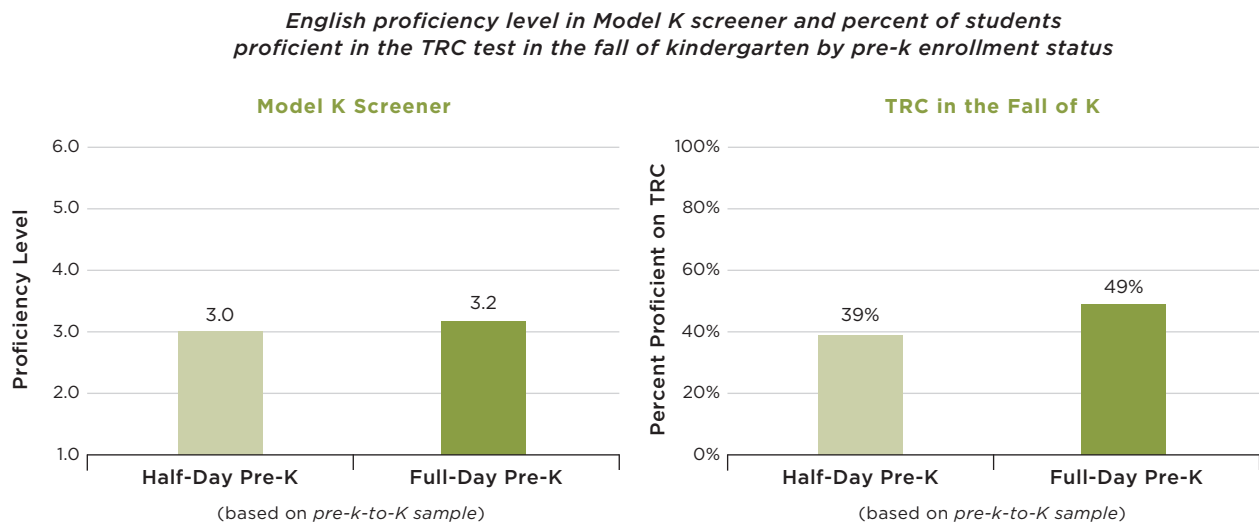
(e.g., home language, socioeconomic status, identified disabilities, incoming English skills), we still find that students who participated in a full-day CPS pre-k program had better outcomes at the end of the school year than those who enrolled in a half-day program.

We found that, on average, ELs in full-day classrooms attended about 2.5 additional school days compared to those who enrolled in a half-day class but were alike in all other measured factors. Similarly, even after accounting for students' characteristics and school factors, we saw that ELs in full-day CPS programs demonstrated stronger oral English skills and were more likely to demonstrate reading proficiency, relative to other ELs in half-day classes (see Figure 1). They scored about one-quarter of a proficiency level higher in the Model K screener test<sup>22</sup> at the beginning of kindergarten, which translates into a meaningful difference of 0.15 of a standard deviation.<sup>23</sup> In the Text Reading and

Comprehension (TRC) test that students took in the fall of kindergarten, ELs who enrolled in a full-day CPS pre-k were 10 percentage points more likely to demonstrate reading proficiency, either in English or Spanish,<sup>24</sup> when compared to similar ELs who enrolled in a half-day classroom.<sup>25</sup>

**Enrolling in CPS pre-k before the age of four was associated with better pre-k attendance and the development of stronger English and early reading skills when starting kindergarten.** A share of CPS pre-k enrollment is comprised by children younger than four.<sup>26</sup> In our *pre-k-to-K sample*, 54 percent of ELs enrolled before the age of four and most of them (90 percent) stayed in the same pre-k site when they turned four. Compared to ELs who enrolled in CPS pre-k for the first time at the age of four, ELs who enrolled in CPS pre-k at the age of three or earlier

**FIGURE 1**  
**ELs in Full-Day CPS Programs Demonstrated Stronger Oral English Skills and Reading Proficiency in the Fall of Kindergarten**



**Note:** These graphs display the adjusted average English proficiency level in the Model K screener and the proficiency rate in TRC reading test for students who attended a half-day pre-k and those who attended a full-day pre-k. These adjusted averages can be read as the averages for two groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether they attended a half-day pre-k or a full-day pre-k. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

**22** For more detail on screener tests see the box titled *Screener Tests in Pre-K and Kindergarten* on p.22 in Chapter 2.

**23** The standard deviation for the Model K screener in our sample was 1.8 proficiency levels, thus the effect size was 0.15 standard deviations. Throughout the report, we offer information on the effect size measured in standard deviations so the reader can have a comparable metric across the different outcomes.

**24** In the *pre-k-to-K sample*, only 57 percent of ELs took the TRC Test at the beginning of their kindergarten year in either English or Spanish; 41 percent of TRC takers took the test in Spanish.

**25** The standard deviation for the TRC proficiency was 49 percentage points, therefore the effect size was 0.20 standard deviations.

**26** With the implementation of the recent Universal Pre-Kindergarten (UPK) initiative, a larger number of high-need three-year-old children will be primarily served in city-funded community-based learning centers (Chicago Early Learning, 2019).

were more likely to have an identified disability (22 percent compared to 11 percent) and were more likely to enroll in a full-day program at the age of four (23 percent compared to 15 percent).

Analysis showed that even after taking into account the differences in students’ observed characteristics, ELs who enrolled in a CPS pre-k before the age of four had stronger performance than their peers who enrolled only for one year at the age of four, both in terms of pre-k attendance and the development of English and early reading skills at the beginning of kindergarten. In terms of their English development, ELs who enrolled in CPS pre-k early scored, on average, almost one proficiency level higher in the Model K screener.<sup>27</sup> Similarly, ELs who attended a CPS pre-k before the age of four were 7 percentage points more likely to meet the proficiency threshold in the TRC reading test administered in English or Spanish (see Figure 2).<sup>28</sup>

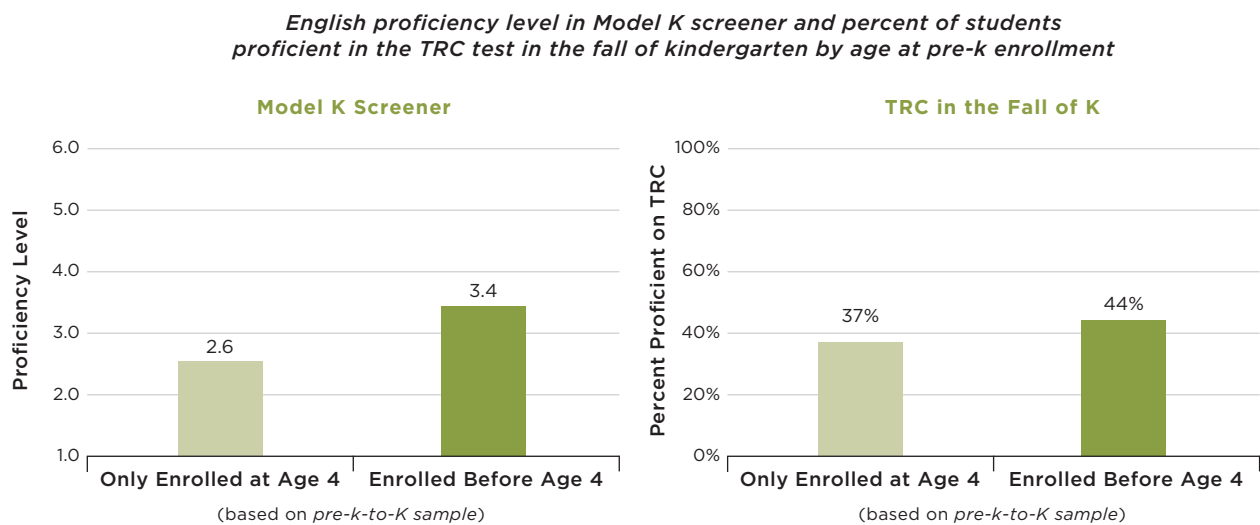
Although pre-k attendance rates did not differ

significantly by ELs’ age at the time they enrolled in a CPS pre-k, we did find that ELs who enrolled younger than age four and stayed in the same CPS school during their pre-k years had stronger attendance in pre-k as four-year-olds.

## Participation in CPS pre-k and K-to-3 Outcomes

In order to explore the relationship between attending a school-based pre-k and ELs’ performance in the early grades, we turned to the *K-to-3 sample*. Among kindergarten ELs, we compared outcomes between those who enrolled in a CPS pre-k and those who did not. Students who did not attend a CPS school for pre-k might have participated in other types of early education programs. Thus, our findings would provide an estimate of the relationship between attending a CPS pre-k and early-grades outcomes compared to students who might have enrolled in other preschool settings or might not have any preschool experience.

**FIGURE 2**  
**ELs Who Enrolled in CPS Pre-K Younger Than Four Had Stronger Oral English Skills and Early Reading Proficiency by the Fall of Kindergarten**



**Note:** These graphs display the adjusted average English proficiency level in the Model K screener and the proficiency rate in TRC reading test for students who enrolled before the age of four and those who enrolled only at the age of four. These adjusted averages can be read as the averages for two groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether they enrolled in a CPS pre-k before age four or only enrolled in pre-k at the age of four. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

**27** A large difference given that the standard deviation for the Model K screener in our sample was 1.8 proficiency levels, thus the effect size was 0.44 standard deviations.

**28** Given that the standard deviation for the TRC proficiency was 49 percentage points, a difference of 7 percentage points translated into an effect size of 0.14 standard deviations.



**More than one-half of kindergarten ELs participated in CPS pre-k.** Although many students entered the district for the first time in kindergarten, many others attended pre-k in a CPS school.<sup>29</sup> This was also the case for ELs. In the *K-to-3 sample*, 56 percent of kindergarten ELs in 2015 and 2016 were enrolled in a CPS pre-k the year before.

Kindergarten ELs who enrolled in a CPS pre-k had different characteristics than their EL peers who did not attend pre-k at all or who participated in other types of preschool available in the city or elsewhere. For instance, in line with CPS' plans to make pre-k more accessible to students who might benefit the most, we see that three-quarters of kindergarten ELs with identified disabilities enrolled in a CPS pre-k the prior year (75 percent), compared to 53 percent of kindergarten ELs who did not have an identified disability. Our analysis took this into account along with other observed student characteristics and school factors. Our results, while non-causal, shed light on the relationship between attending CPS pre-k and later student outcomes (see **Appendix A** for a full detailed description of the methodology and variables included in the analysis).

**Even after four years in school, attending a CPS pre-k was associated with stronger learning outcomes and school engagement for ELs.** By the time ELs reached third grade, ELs who enrolled in a CPS pre-k still had slightly stronger performance than similar ELs who did not enroll in a CPS pre-k. Compared to their EL peers who did not enroll in a CPS pre-k, third-grade ELs who enrolled in a CPS pre-k:

- Had higher attendance of about one additional school day
- Had slightly higher reading and math GPAs (0.08 and 0.11 additional grade-point, respectively)
- Had higher scores in the NWEA-MAP math test (0.99 additional scale score point)

- Were more likely to demonstrate English proficiency in the ACCESS test by third grade (4 percentage points)<sup>30</sup>

Altogether, our findings show that attending pre-k in a CPS school was a positive experience for ELs' academic performance, not only in the short term but even as far as third grade. In particular, ELs enrolling in a full-day program or enrolling earlier than the age of four was strongly associated with kindergarten readiness in terms of their English and reading skills development. The following sections will discuss other school factors that are also related to ELs' outcomes in the early grades.

## Participation in Bilingual Education Services

Once a student is identified as an EL, they are entitled to Bilingual Education Services that support their language development. While there are different types of Bilingual Education Services that a CPS student may experience, our data do not allow us to compare these approaches to each other in great detail. Our data and analyses of our *K-to-3 sample* did show that ELs who did receive Bilingual Education Services had higher academic performance in the long run than students who did not.<sup>31</sup> We are also able to report outcomes for students in Dual Language Programs; see the box titled **ELs in Dual Language Programs** for details on p.16. Overall, our findings suggest that Bilingual Education Services are beneficial for ELs.

**Only a small percentage of parents and guardians refused language services for their EL students.** In Illinois, all ELs are entitled to Bilingual Education Services, which include ESL instruction and, for students with 20 or more ELs speaking their same language at their school, instruction in their home

<sup>29</sup> Some students who did not enroll in a CPS pre-k may have attended preschool in other early care settings for which we do not have data (e.g., community-based settings, private preschool).

<sup>30</sup> Based on the standard deviations for the different third-grade outcomes in our *K-to-3 sample*, these differences translated into effect sizes ranging from 0.08 to 0.12 standard deviations. These were not very large effects, but they were still detectable even in third grade.

<sup>31</sup> In this section, we consider students to have "received bilingual services" if their parents or guardians had not refused services. Students in this category received a range of language supports, including both home language instruction and English as a Second Language (ESL) instruction, and some may have attended schools that were out of full compliance with state requirements for bilingual services (Belsha, 2017). However, the fact that these students received some form of language development sets them apart from students whose parents or guardians refused bilingual services.

## ELs in Dual Language Programs

Dual language programs provide core instruction in both English and a target language (usually Spanish in CPS), with the goal of students becoming bilingual and biliterate. ELs participating in Dual Language Programs receive a high level of instruction in their home language: dual language program models in CPS require that students receive between 50 and 80 percent of instruction in their home language. Dual language programs strengthen ELs' skills in their home language<sup>E</sup> and may also be beneficial for their cultural identity development.<sup>F</sup>

Prior research has found that ELs in dual language settings scored lower on English-language tests in the early grades, but by middle school they had stronger scores on ELA tests.<sup>G</sup> Our study only follows ELs through the end of third grade, and thus might not capture the true long-term effects of Dual Language Programs. Furthermore, for the *K-to-3 sample*, we are unable to measure home language proficiency or cultural identity development, two areas likely to be

positively influenced by Dual Language Programs.

Dual language programs are growing in popularity in CPS but are still relatively uncommon. In the *K-to-3 sample*, 7 percent of students attended Dual Language Programs.

In the *K-to-3 sample*, ELs who attended Dual Language Programs had similar attendance across years and grades in reading and math in third grade, compared to other ELs. In outcomes measured in English, they generally scored lower than similar ELs. They received lower scores in the ACCESS test of English proficiency in kindergarten, and by the end of third grade they had lower reading standardized test scores and were slightly less likely to demonstrate English proficiency on the ACCESS test. However, it is important to interpret these results with caution, since the long-term effects of Dual Language Programs may not be detectable by the third grade, and the *K-to-3 sample* analysis includes no outcomes in students' home language, which is a major focus of Dual Language Programs.

E Barnett, Yarosz, Thomas, Jung, & Blanco (2007); Collier & Thomas (2004).

F Reyes & Vallone (2007); Casesa (2019).

G Umansky & Reardon (2014).

language. However, not all students identified as ELs receive services to aid their language development. Parents and guardians may refuse services for their child, which would prevent students from participating in the Bilingual Education Services their school offers. ELs whose parents or guardians refuse Bilingual Education Services have experiences that are analogous to an English-immersion setting: they do not receive any instruction in their home language or ESL support. Thus, understanding how their outcomes compare to other ELs in CPS may shed light on how a lack of targeted language development relates to their academic performance.

Students whose parents or guardians refuse Bilingual Education Services are still classified as ELs

and, like other ELs, take the ACCESS test of English proficiency each year to determine if they can demonstrate sufficient English skills to become former ELs. In the *K-to-3 sample*, refusals to Bilingual Education Services were uncommon: 3 percent of ELs' parents or guardians refused Bilingual Education Services for their student by the end of kindergarten.<sup>32</sup> Even though these students made up a small proportion of the EL population, understanding how they perform in school is important for parents and guardians trying to make the best decision for their students.

It stands to reason that families who choose to refuse services for their children may differ in some ways from families who do not make this choice, and

32 In the *pre-k-to-K sample*, less than 1 percent of ELs' parents or guardians refused bilingual services for their student by the end of pre-k. We generally do not find significant effects of

refusal status on outcomes for the *pre-k-to-K sample*, so we do not report results for this sample here.

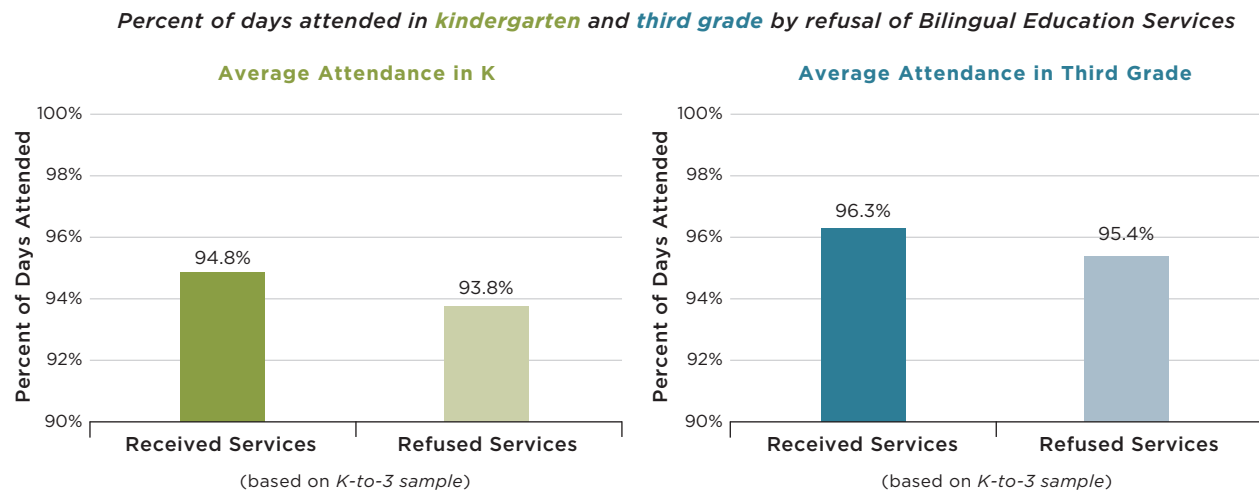
we find some demographic differences between ELs who received Bilingual Education Services and those whose parents or guardians refused services. Compared to other ELs, students whose parents or guardians refused Bilingual Education Services were more likely to be Spanish speakers, more likely to have an identified disability, and less likely to be eligible for free or reduced-price lunch. ELs whose parents or guardians refused services also entered CPS with higher average English skills (see Table B.2. in Appendix B on p.42). Our models accounted for the differences we observed, and when we compare ELs who refused services to similar ELs who received Bilingual Education Services, we find educational advantages in the long-run for those who received services.

**In the long run, students who received Bilingual Education Services had higher academic and attendance outcomes than those who refused.** We find that ELs who received services had higher attendance across grades than ELs whose parents or guardians refused EL

services (Figure 3). In the third grade, ELs who received services attended two more days of school than similar students whose parents or guardians refused services.<sup>33</sup> Even after controlling for incoming English proficiency, ELs who received services had lower kindergarten English proficiency scores in the ACCESS test (particularly in speaking and listening) than similar ELs whose parents or guardians refused EL services. However, by end of third grade, students who received services were 4 percentage points more likely to demonstrate English proficiency on the ACCESS test (Figure 4)—which suggests that ELs whose parents or guardians refused services stagnated in their English language development, compared to ELs who received services.<sup>34</sup>

Furthermore, students who received services had higher academic outcomes in the third grade. Compared to similar students who refused services, students who received services had higher GPAs in both math and reading and scored almost two points higher on the math NWEA test and one point higher on the reading NWEA test.<sup>35</sup>

**FIGURE 3**  
**ELs Who Received Bilingual Education Services Had Higher Attendance than ELs Whose Parents or Guardians Refused Services**



**Note:** This graph shows kindergarten and third grade adjusted average attendance rates for students whose parents or guardians refused Bilingual Education services and those who did not. These adjusted averages can be read as the averages for two groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether their parents or guardians refused Bilingual Education Services or not. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

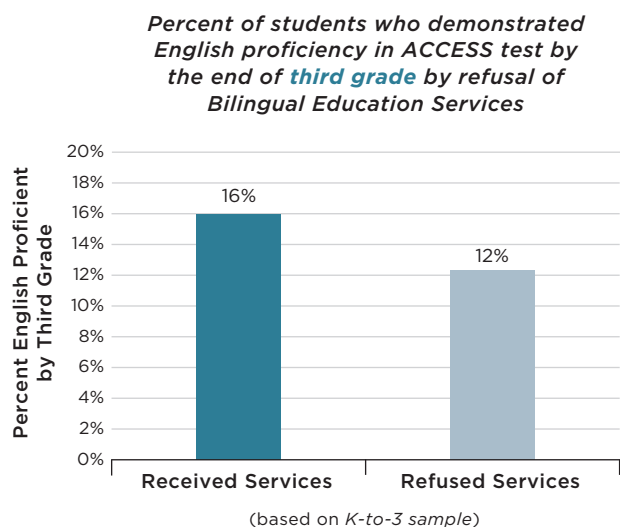
**33** Given that the standard deviation for attendance in third grade was 4.3 percentage points, a difference of 0.9 percentage points, or two days, translated into an effect size of 0.21.

**34** A difference of 4 percentage points in the likelihood of demonstrating English proficiency was equivalent to an effect size of 0.11 standard deviations.

**35** Based on the standard deviations for the different third-grade outcomes in our K-to-3 sample, these differences translated into effect sizes ranging from 0.08 to 0.16 standard deviations.

**FIGURE 4**

**ELs Who Received Bilingual Education Services Were More Likely to Demonstrate English Proficiency in Third Grade than ELs Whose Parents or Guardians Refused Services**



**Note:** This graph shows adjusted differences in the likelihood of demonstrating English proficiency by third grade between students whose parents or guardians refused Bilingual Education Services and those who did not. These adjusted averages can be read as the averages for two groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether their parents or guardians refused Bilingual Education Services or not. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

Adjusting for their incoming characteristics, students who refused services had higher English proficiency scores at the end of kindergarten—but by the third grade, they were no longer ahead of their peers on virtually any metric.<sup>36</sup> The disadvantages of refusing Bilingual Education Services might not be obvious at first, but these findings offer important considerations for teachers and families of future ELs to consider.

## Enrollment in a Highly Rated School

In line with the increased focus on school accountability throughout the nation, CPS assigns most schools a quality rating every year based on the CPS accountability system, SQRP.<sup>37</sup> These ratings reflect a school’s performance based on several metrics (see the box titled *School Quality Rating Policy*) and are easily available to the public. Our findings show that ELs who enrolled in highly rated schools (Level 1+) had stronger outcomes in standardized tests compared to their peers attending schools with lower SQRP ratings.

Critics of SQRP argue that these ratings can be more highly correlated with the composition of the student

## School Quality Rating Policy (SQRP)

SQRP is the Chicago Board of Education’s policy for evaluating school performance.<sup>H</sup> Ratings are calculated based on different metrics, depending on whether schools are elementary schools, high schools, or option schools. Rating in a particular year is based on prior year data.

For elementary schools, the indicators used include student attainment and growth on the NWEA MAP tests, student attendance, 5Essentials survey data, student growth on ACCESS for ELs, and a data quality indicator. Student growth on

the NWEA MAP tests and student attendance are weighted more heavily on the calculation of the overall rating. Most of the metrics are based on students enrolled in kindergarten and above, even when elementary schools also serve pre-k students.

Under the current district accountability system, there are five different ratings schools can get: Level 1+, Level 1, Level 2+, Level 2, and Level 3. CPS determines that Level 3 schools are in need of intensive support, Level 2 schools are in need of targeted support, while others are meeting the quality expectations set by the district.

<sup>H</sup> For more information see <https://www.cps.edu/about/district-data/metrics/sqrp/>

<sup>36</sup> Students whose parents or guardians refused services had higher scores on the listening domain of the third-grade ACCESS test than similar students who received services. However, students whose parents or guardians refused services were less likely to demonstrate proficiency by the end of third grade, so they were more likely to be taking the ACCESS test in third than students who received services. Thus, the results of these groups may not be comparable for that outcome. On all other third-grade outcomes, students whose parents or

guardians refused services had results that were lower (attendance, math and reading GPA, math and reading NWEA, ACCESS reading and writing proficiency levels, likelihood of demonstrating English proficiency) or similar (ACCESS composite and speaking proficiency levels) to students who received services.

<sup>37</sup> This accountability system is currently under review (see <https://www.cps.edu/strategic-initiatives/accountability-redesign/>).

body being served in schools than to school practices.<sup>38</sup> We acknowledge that the SQRP metric does not capture all the different dimensions one could consider when measuring school quality. However, it still reflects aspects that parents and families may value about schools. We included SQRP in our analyses to be consistent with the district’s accountability policy and recognize the practicality of this metric for different stakeholders.

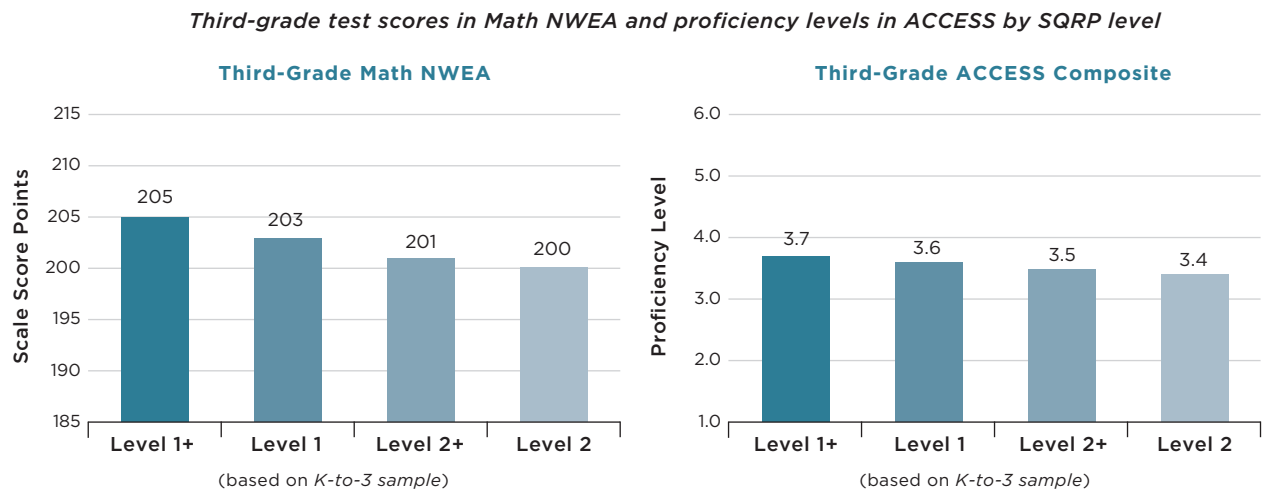
In our *K-to-3 sample*, two-thirds of ELs were attending kindergarten in a school with one of the highest ratings, Level 1+ or Level 1. An additional 21 percent of students were enrolled in a Level 2+ school. In comparison, few students were enrolled in schools that the district deemed in need of supports. Only 10 percent of the students were enrolled in a Level 2 school and less than 1 percent attended Level 3 schools.<sup>39</sup>

**Attending higher-rated schools, based on CPS’ School Quality Rating Policy, was associated with higher standardized test scores in math and reading.** Analyses that accounted for student and school

differences showed that the rating a school received was positively associated with the scores ELs obtained in their third-grade math NWEA standardized assessments. For example, an average student enrolled in a Level 1+ school, the highest rating, scored 205 on the math NWEA in third grade while a similar student in a Level 2 school scored 200 (Figure 5). Not only were these differences statistically significant, they were also meaningful in practice as a score of 205 in math in third grade places a student in the 54th national percentile while a score of 200 places a student in the 39th national percentile. Similar differences were also measured in the third-grade reading NWEA results: five scale score points separated similar students in schools in Level 1+ and those attending Level 2 schools.<sup>40</sup>

**Attending schools with a higher SQRP rating was also positively associated with ELs’ English proficiency scores, as measured by the ACCESS test.** School ratings were also associated with ELs’ scores on the ACCESS test of English proficiency, with students

**FIGURE 5**  
**ELs With Similar Characteristics Who Attended Highly Rated Schools Had Higher Math Scores on the NWEA Test and Higher Proficiency Levels on the ACCESS Test in Third Grade**



**Note:** These graphs depict the adjusted average test scores in schools where the majority of ELs were enrolled. As few students were enrolled in schools in Level 3 or schools with no ratings, these groups are not shown in the figures. These adjusted averages can be read as the average test scores for two groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether they attended schools with different SQRP ratings. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

<sup>38</sup> Walker Burke (2020, January 27).

<sup>39</sup> There are a few schools in the district that do not receive a rating; 3 percent of students in our *K-to-3 sample* were enrolled in those schools.

<sup>40</sup> In our sample, the variation in NWEA test scores, measured in standard deviations, is 16 points in reading and 13 points in math. These estimated differences attributed to attending schools with different ratings represent an effect size of 0.31 standard deviations in reading and 0.38 in math.

attending higher-rated schools scoring higher in terms of English proficiency than students at lower-rated schools. In kindergarten, the differences in proficiency levels were small, even though they were statistically significant, but in third grade those differences became more pronounced. For example, the average EL enrolled in a Level 1+ school scored 0.3 proficiency levels, or about one-third of a standard deviation, higher on the composite ACCESS compared to a similar EL at a Level 2 school (Figure 5). It is worth noting that SQRP ratings were not related to whether students demonstrated English proficiency by third grade.

Figure 5 shows the adjusted average test score in math NWEA and ACCESS in third grade between the average EL attending schools with different ratings, based on the *K-to-3 sample*.

While prior year's attendance is one of the metrics included as part of the SQRP ratings, the relationship with ELs' attendance was statistically significant only in kindergarten. However, differences in attendance attributed to schools with different ratings were small and not meaningful in practice. Our analyses also showed that school ratings were not associated with the math and reading grades ELs received in their third-grade classes.

**For pre-k ELs, attending schools with a higher SQRP rating was positively associated with English proficiency and somewhat related to attendance.** Even though school ratings are based on data from students in grades kindergarten and above, elementary school's SQRP ratings were associated with advancing English skills in pre-k, based on the *pre-k-to-K sample*. The average pre-k EL in a Level 1+ school compared to a similar student attending a Level 2 school scored 0.4 proficiency levels higher in the Model K screener they took at the beginning of kindergarten, which represents a difference of 0.2 standard deviations. Attendance in pre-k was also positively related to school ratings, but again this association was not strong enough to be meaningful.

In this chapter, we highlighted circumstances in which we saw some ELs showing stronger academic success than their peers who were also ELs. Those cases included when students participated in a CPS pre-k, especially in a full-day program, when ELs received Bilingual Education Services, and when ELs were attending higher-rated schools. The next chapter will explore whether in the early years we can identify young ELs who might benefit from additional assistance to support their academic performance.

# Identifying ELs Who Would Benefit from Additional Support

Our prior work on ELs pointed out that one in five students who began kindergarten as ELs were still classified as ELs in eighth grade.<sup>41</sup> This group of ELs was unable to demonstrate English proficiency by eighth grade, attended school at lower rates than other ELs, and had lower grades and test scores. This suggests that they were less engaged in school and struggled in their classes. These ELs would benefit from additional supports to keep them engaged and improve their learning if they could be identified early on. In this chapter, we focus on whether we can identify among ELs those in need of further learning opportunities.<sup>42</sup>

Here, we highlight two factors that were associated with ELs' academic performance: 1) students' English proficiency level at the time of enrollment in CPS; and 2) whether students had identified disabilities. Similar to the prior chapter, we present analyses based on two different samples, the *pre-k-to-K sample* and the *K-to-3 sample*, to show these relationships. Practitioners could use these findings to target students in the early grades. To preview the results:

- Entering pre-k or kindergarten with low levels of English language proficiency (i.e., in the early stages of English development) was related to lower academic performance, measured by standardized test scores and grades. However, the initial English language proficiency was, in general, not related to attendance.
- We found that schools with large numbers of ELs starting school with low levels of English language proficiency might also benefit from

more supports. The ELs served in these schools had lower grades and lower proficiency English levels in their ACCESS test in third grade, compared to similar students across similar schools that differed only in the number of students who started school with a low English proficiency level.

- Certain identified disabilities were associated with students having a harder time in school. ELs with identified disabilities made progress toward acquiring English skills, but at a slower pace than their peers. Students with most types of identified disabilities, except those with speech and language disabilities, had lower attendance.

## English Language Skills Measured at Time of School Enrollment

When a student enrolls in CPS, the student is screened for English proficiency within 30 days of enrollment, based on the answers to the Home Language Survey.

Our analyses of the scores from these screener tests among ELs show that they were related to students' outcomes in school even a few years after the screener was taken. ELs in the early stages of acquiring English skills, reflected by their lower screener scores, tended to have lower grades and test score performance compared to other ELs. However, attendance was not related to screener test scores. This information is available to practitioners very soon after students enrolled in school and could be useful to target further supports.

<sup>41</sup> de la Torre et al. (2019).

<sup>42</sup> Once more, the analyses we present here looked at the relationship between student and school factors and student outcomes in pre-k, kindergarten, and third grade after statistically accounting for differences that could be explained by other student characteristics and school factors (see Appendix A for details on the statistical models). In other words, the differences attributed to a particular factor we present here can be interpreted as

comparing students who are alike on all other measured characteristics except the particular factor of interest. We again highlight in this chapter factors that: 1) were statistically significant (i.e., the estimate was precise and showed a positive or negative relationship with outcomes); 2) had a meaningful relationship (i.e., the size of the estimated coefficients was large compared to the variation in outcomes we observed among ELs); and 3) were important across different outcomes.

## Screener Tests in Pre-K and Kindergarten

Pre-k students (aged 3, 4, and 5) are screened for English language proficiency using the Pre-IPT Oral English Language Proficiency Test. The test is administered individually, ideally by a bilingual educator, and assesses four areas of oral language proficiency (Vocabulary, Comprehension, Syntax, and Verbal Expression) by displaying story pieces on a board and asking students scripted questions about them. The test is scored in five proficiency levels:

- A or beginning (non-English speaking),
- B or early intermediate (limited English speaking),
- C or intermediate (limited English speaking),
- D or early advanced (limited English speaking), and
- E or advanced (fluent English speaking).

Four-year-old students who score below E are eligible for bilingual services and identified as ELs.

Students are only screened once during pre-k, but every student whose Home Language Survey indicated they spoke a language other than English at home must be re-screened upon kindergarten entry using the Model K screener test. Kindergarten students screened in the

fall only take the oral portion (speaking and listening domains) of the test. The Model K screener test is divided into six proficiency levels:

- Level 1 or entering (use minimal social language and academic language with visual and graphic support),
- Level 2 or emerging (use some social English and general academic language with visual and graphic support),
- Level 3 or developing (use social English and some specific academic language with visual and graphic support),
- Level 4 or expanding (use social English and some technical academic language),
- Level 5 or bridging (use social English and academic language working with grade-level material), and
- Level 6 or reaching (use social and academic language at the highest level measured by this test).

Kindergarten students who do not obtain a proficiency level of 5 or above are identified as ELs and will need to take the ACCESS test of English proficiency during the spring each year until they reach the English proficiency threshold.

**More than one-half of the ELs served in CPS in pre-k and kindergarten were in the early stages of developing English language skills.** Close to one-half of the EL students starting pre-k and kindergarten in our two samples demonstrated the acquisition of some oral skills in English (on the pre-k screener: “Early Intermediate, Intermediate, or Early Advanced”; on the K screener: “emerging, developing, or exploring”) as measured by the screener tests; the other one-half scored in the beginning/entering levels (see **Figure 6**), which we consider to be the early stages of developing English language skills.

Students who score in the beginning (pre-k)/entering (K) levels in the screener test most likely will be listening and responding in non-verbal ways to show understanding or starting to use single words, one- or two-word phrases, and repetitive language with limited comprehension (see the box titled **Screener Tests in Pre-K and Kindergarten** for a description of English proficiency levels). As students advance their English language skills,

they move to using simple sentences to communicate and their comprehension starts to improve. Eventually they can communicate more complete thoughts with sentences of increasing length and complexity and can participate in everyday conversations without highly contextualized support. Ultimately, students reach the advanced fluency stage where their language skills are similar to that of a native speaker.

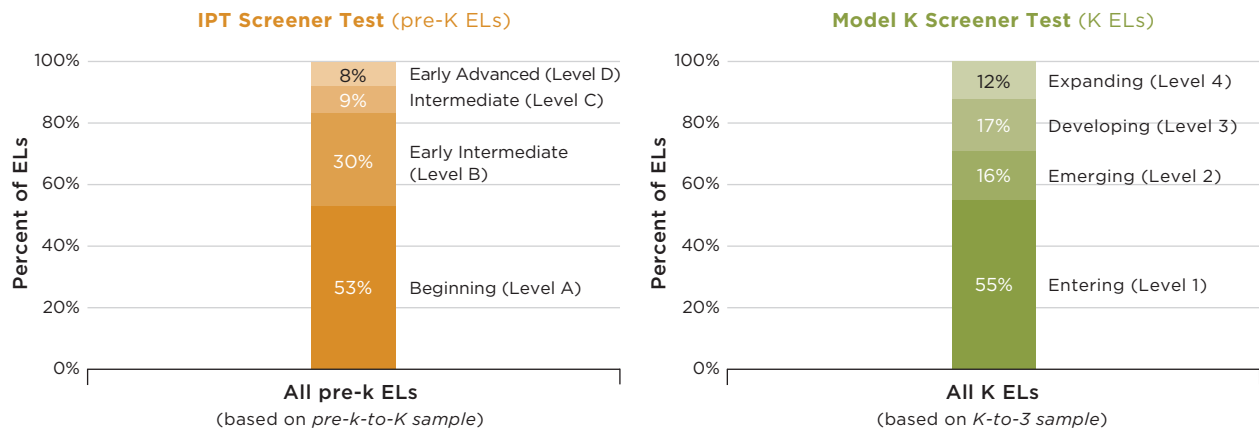
A few demographic differences were apparent between students who joined school in the early developmental stages of their English skills and students with higher scores in the screener tests. In the group of ELs who scored in the beginning (pre-k)/entering (K) levels in the screener test, there were relatively more male students, more Spanish speakers, more students eligible for free or reduced-price lunch, and more students with an identified disability. In addition, students with higher scores in the screener tests in kindergarten were more likely to refuse Bilingual Education Services. It could be the case that



**FIGURE 6**

**At the Time of Enrollment, ELs Exhibited a Range of Developmental Stages of English Language Skills**

*Percent of ELs at different proficiency levels on the IPT screener and Model K screener*



**Note:** Not included in the above K figure are 1 percent of sample students who were missing Model K screener scores or passed the screener but were still labeled as ELs.

parents or guardians were more likely to refuse services if their student exhibited higher levels of oral English skills, suggesting to them that the student was ready to perform in an English immersion environment. For more information on ELs’ characteristics by screener scores, see **table B.4 in Appendix B**.

**Differences in screener English proficiency levels were associated with academic performance.**

We found that lower (and higher) scores on screener tests when students entered pre-k and kindergarten were correlated with lower (and higher) later scores of English proficiency and other assessments in reading and math, commonly administered in English. Those differences by incoming English proficiency persisted even after four years in school.

In general, ELs in the *pre-k-to-K* sample who enrolled in a CPS pre-k with higher incoming English scores were more likely to attain proficiency in the TRC assessment in the fall of kindergarten. In CPS, this assessment can be administered in either English or Spanish.<sup>43</sup>

**Figure 7** shows the percent of students who were

proficient in the TRC when comparing students alike in all other student characteristics and school factors. We estimate that students who were in the beginning proficiency level upon entering pre-k were 7 percentage points less likely to be proficient on the TRC test than students in the next level (early intermediate) and 13 percentage points lower than other similar ELs in the following levels.<sup>44</sup>

It is worth noting that when students were tested in Spanish, they were more likely to demonstrate proficiency on the TRC than students with the same screener score who were tested in English; a difference of 7 percentage points. This indicates that being assessed in English prevented some ELs from showing the full extent of their early literacy skills. However, if a student scored high on the screener, they tended to score higher on the TRC, regardless of whether it was conducted in English or Spanish.

Based on the students in our *K-to-3* sample, we find that differences in the screener scores in kindergarten were still detectable in ELs’ third-grade NWEA scores in both reading and math (see **Figure 8**). Differences

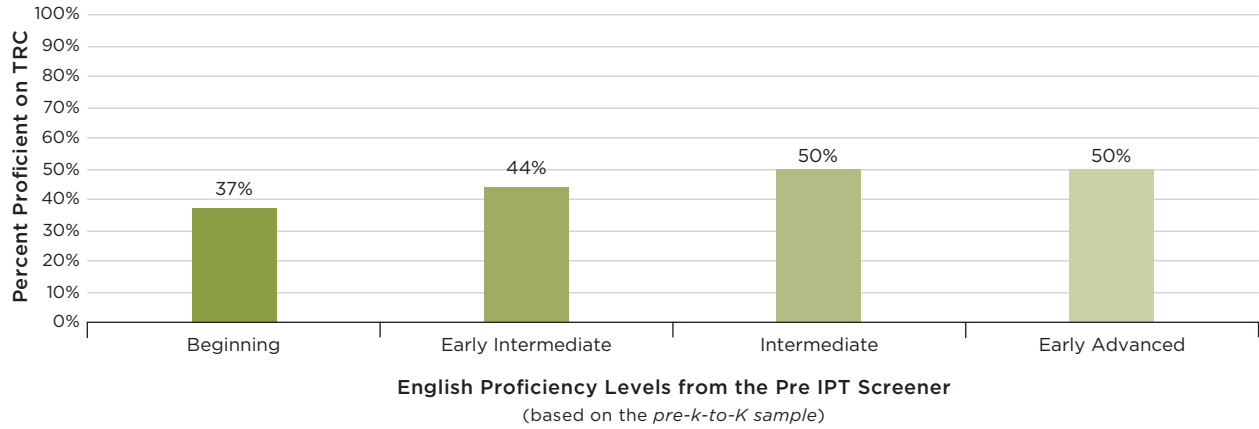
<sup>43</sup> Among the TRC takers, 41 percent took the Spanish version. It was less likely for ELs in the Early Advanced screener level to take the TRC in Spanish (16 percent) than for ELs in the Beginning screener level (52 percent).

<sup>44</sup> Given that the standard deviation for the TRC proficiency was 49 percentage points, a difference of 7 percentage points represented an effect size of 0.14 standard deviations and 13 percentage points represented an effect size of 0.27 standard deviations.

**FIGURE 7**

**ELs Who Started Pre-k in the Beginning Stages of Developing English Skills Were Less Likely to Demonstrate Proficiency on the TRC**

*Percent of students proficient in TRC test in the fall of kindergarten*

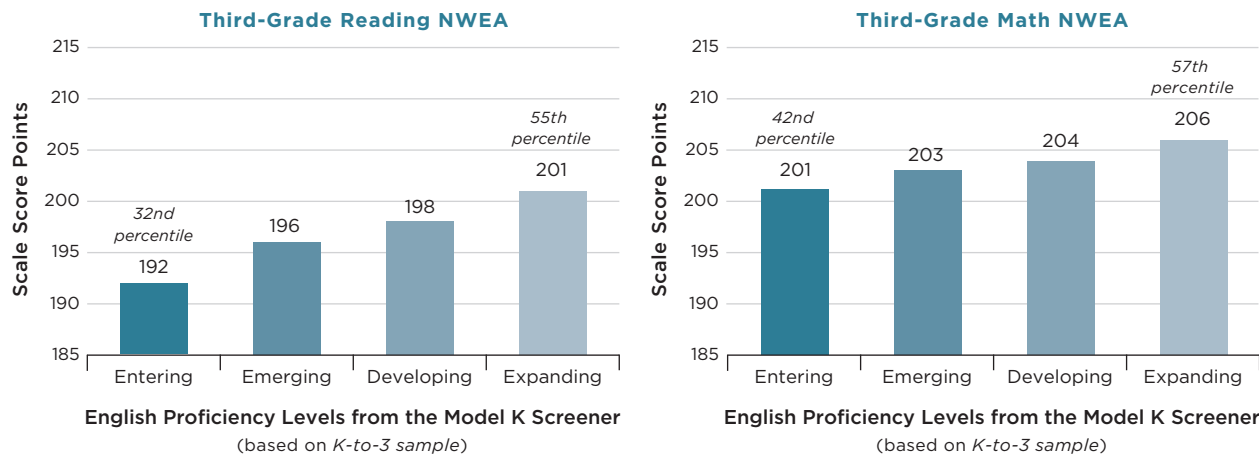


**Note:** Fifty-seven percent of the *pre-k-to-K sample* took the TRC assessment in the fall of kindergarten (with similar rates regardless of their screener scores). This graph shows adjusted differences in TRC proficiency rates. These adjusted averages can be read as the averages for different groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in their English proficiency level from the pre IPT screener test. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

**FIGURE 8**

**Differences in English Proficiency Levels Measured by the Screener Test in Kindergarten Were Related to Performance in Reading and Math in NWEA Test in Third Grade**

*Third-grade NWEA reading and math scores by Model K screener proficiency levels*



**Note:** Based on ELs who took NWEA assessment in third grade (90 percent of third-grade ELs in our *K-to-3 sample* took the reading portion of NWEA and 92 percent took the math assessment). This graph shows adjusted differences in NWEA scale score points. These adjusted averages can be read as the average test scores for different groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in their English proficiency level from the Model K screener. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

were larger in the reading test than the math test. When comparing students alike in all other student characteristics and school factors who only differed in their screener score in kindergarten, students at the entering level in kindergarten scored in the 32nd percentile in reading and in the 42nd percentile in math in third grade, while students in the expanding level in kindergarten scored in the 55th percentile in reading and 57th percentile in math.<sup>45</sup>

Screener scores were not only related to standardized test performance, but they were also related to grades in third-grade classes. Differences were estimated to be 0.3 GPA points lower for reading and 0.2 GPA points lower for math between students in the entering group vs. students in the expanding group.<sup>46</sup> Grading protocol for ELs in CPS establishes that grades should be based on students' content knowledge, and ELs should not receive a failing grade due to limited English proficiency. These differences in grades indicate that the screener scores were related to later content knowledge, which might signal that students who enter school with lower screener scores need additional instruction and help to be successful in school.

**Generally, we found that the screener data was not related to students' attendance.** Although students with the lowest screener scores had higher average attendance in pre-k (based on *pre-k-to-K sample*), attendance later on, in kindergarten and third grade, was not related to screener differences (based on *K-to-3 sample*). This is encouraging, as students' attendance is important for their learning and it signals engagement with school, even for those students whose English language skills were in the early stages of development. The fact that they were attending school at similar rates

indicated that students would be present in school to receive additional assistance.

**Not surprisingly, screener scores that measured English oral language skills were related to ACCESS test scores that measure English language proficiency.**

Students who entered kindergarten with higher levels of English skills were more likely to demonstrate English proficiency on the ACCESS test and become former ELs by the end of third grade. Ten percent of students in the entering level demonstrated English proficiency on the ACCESS test by the end of third grade, while for students who entered CPS in the expanding level, it was 33 percent. Recall that prior research has found that developing academic English skills typically takes between five to seven years.<sup>47</sup> So, in third grade, we would not necessarily expect many ELs to reach this milestone.

Among ELs who took the ACCESS test of English proficiency in third grade, their scores in speaking and writing domains were not that different based on their incoming English skills. But students who started kindergarten with lower K-screener scores had significantly lower third-grade scores in the listening and reading domains (see **Figure 9**). They also scored lower in the reading portion of the NWEA assessment compared to the math portion. Practitioners may want to provide differentiated instructional strategies to help ELs develop their English skills in these different domains:

- Interventions aimed at strengthening skills in the listening and reading domains might be beneficial for ELs with low incoming English skills.
- Interventions aimed at improving skills in speaking and writing, which are productive language skills, might provide general strategies to help all ELs.

<sup>45</sup> The standard deviation for the reading NWEA was 16 points, therefore a difference of nine points between students in entering and expanding levels translated into an effect size of 0.56 standard deviations. In terms of math, the difference of five points between students in entering and expanding levels represented an effect size of 0.38 standard deviations given that the standard deviation of math NWEA scores was 13 points in our *K-to-3 sample*.

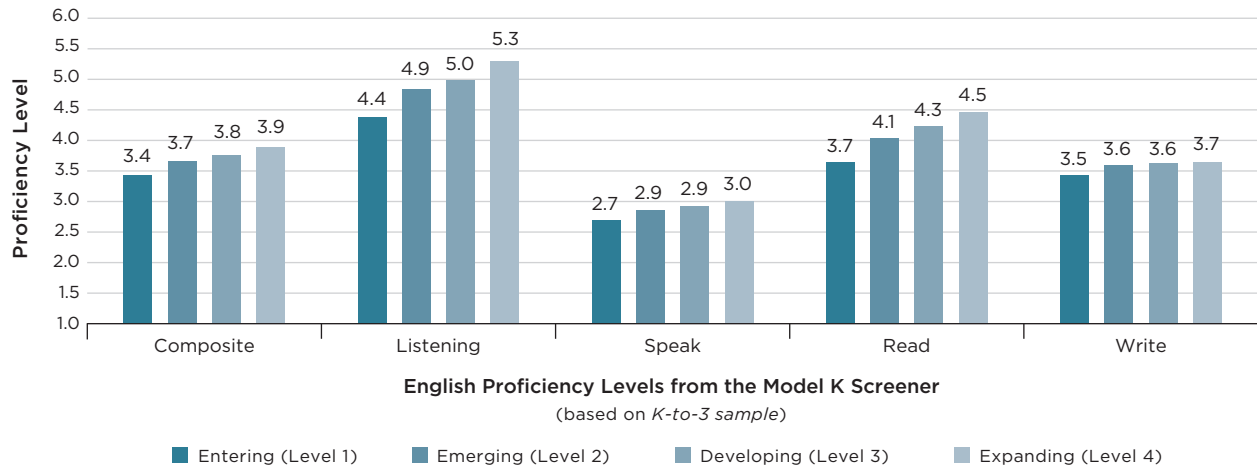
<sup>46</sup> Grades in reading had a standard deviation of 0.88 GPA points and 0.89 GPA points in math. The differences reported in grades indicated an effect size of 0.34 and 0.22 standard deviations respectively.

<sup>47</sup> Collier & Thomas (2009).

**FIGURE 9**

**ACCESS Listening and Reading Domains Showed the Largest Differences Among Students with Different Incoming Screener English Proficiency Levels**

*Third-grade English proficiency levels in ACCESS composite and domains by Model K screener proficiency levels*



**Note:** Based on ELs who took the ACCESS test in third grade (90 percent of third-grade ELs in our *K-to-3 sample* took the reading portion of NWEA and 92 percent took the math assessment). This graph shows adjusted differences in NWEA scale score points. These adjusted averages can be read as the average test scores for different groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in their English proficiency level from the Model K screener. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

## Schools Serving a Large Proportion of ELs with Low Screener Scores Might Need Additional Support

We found that, not only did students across schools who were in early stages of English language development need additional support, but schools serving large numbers of these ELs might need further resources to help advance learning for all ELs they serve.

In the *K-to-3 sample*, ELs who attended schools with a concentration of ELs who scored at lower screener levels in kindergarten were less likely to demonstrate English proficiency in the ACCESS test by third grade, compared to ELs at schools that were similar in all other characteristics. That is, if two similar ELs entered CPS at the lowest screener score level, but attended schools that differed on this dimension, we would expect the EL who attended the school with a higher percent of ELs at the early stage of English development to be less likely to demonstrate English

proficiency by the end of third grade than their peer. Moreover, among ELs who took the ACCESS test in third grade, their scores were on average lower compared to their EL peers in other schools. But more importantly, students' grades in reading and math were also lower in the third grade.

Schools with large numbers of ELs in the early stages of English language development might have different needs than other schools. For instance, it might be particularly challenging for teachers to provide extensive support to larger numbers of students. It is important for district leaders and policymakers to consider how to provide additional resources and support to schools that serve large numbers of ELs who are early in their English development.

## Identified Disabilities

ELs with disabilities are a diverse group of students with unique educational needs. Among EL students, we found 17 percent had an identified disability in the *pre-k-to-K sample* (identified during their pre-k years) and 12 percent in the *K-to-3 sample* (identified during or prior to their kindergarten year). Most students who were identified with a disability were classified as having a developmental delay (9 percent in the *pre-k-to-K sample*; 6 percent in the *K-to-3 sample*), followed by students with a speech and language disability (4 percent in the *pre-k-to-K sample*; 3 percent in the *K-to-3 sample*), and cognitive disability (2 percent in both samples).<sup>48</sup> Our prior study found that ELs with identified disabilities were more likely to be among students who did not demonstrate English proficiency by eighth grade, had lower attendance, and worse academic outcomes in the long run.<sup>49</sup>

Our analyses among ELs who had identified disabilities showed that, with the exception of students identified with a speech and language disability, they had

lower attendance and, even though they made progress toward acquiring English skills, their progress was slower. The listening and reading domains on ACCESS were the areas in which these students showed larger differences in their path toward English proficiency.

**ELs who had an identified disability were more likely to be male, be in the early stages of developing English skills, and more likely to refuse Bilingual Education Services.** There was an overrepresentation of male students in the population of ELs with disabilities: close to three-quarters were male. We found that students with disabilities were more likely to score in the lowest proficiency level of the screeners. While in our *K-to-3 sample* we found that 3 percent of families refused Bilingual Education Services, the likelihood of refusing services was greater among ELs with disabilities. This number increased to 6 percent among students with developmental delays and 5 percent for students with speech and language disabilities (see **table B.5. in Appendix B** for detailed information).

## Students with Disabilities and Special Education

The Individuals with Disabilities Education Act (IDEA) is the federal law that requires public schools to provide special education services to children ages 3-21 who meet certain criteria.

Districts have a process in place to determine which students are eligible for special education. This process involves a comprehensive evaluation that looks at aspects of students' development.

Special education is tailored to meet the needs of students with disabilities. The services and supports one child receives may be very different from what another child receives.

For our analyses we divided students with disabilities into the following four categories:

### 1. Developmental Delay

Applies to children aged 3 to 9 experiencing delays in one or more of the following areas: physical development; cognitive development; communication development; social or emotional development; or adaptive development.

### 2. Speech and Language Disability

Defined as a communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment that adversely affects a child's educational performance.

### 3. Cognitive Disability

Generally refers to any disability affecting mental processes. Autism, for example, would be included in this category.

### 4. Other Disabilities

Includes behavioral, learning, and other physical disabilities. Because there were few students in these categories in our samples at early grades, we present the results of our analyses as a single category, not because they represent a similar type of disability.

<sup>48</sup> See the box titled *Students with Disabilities and Special Education* for a description of these categories.

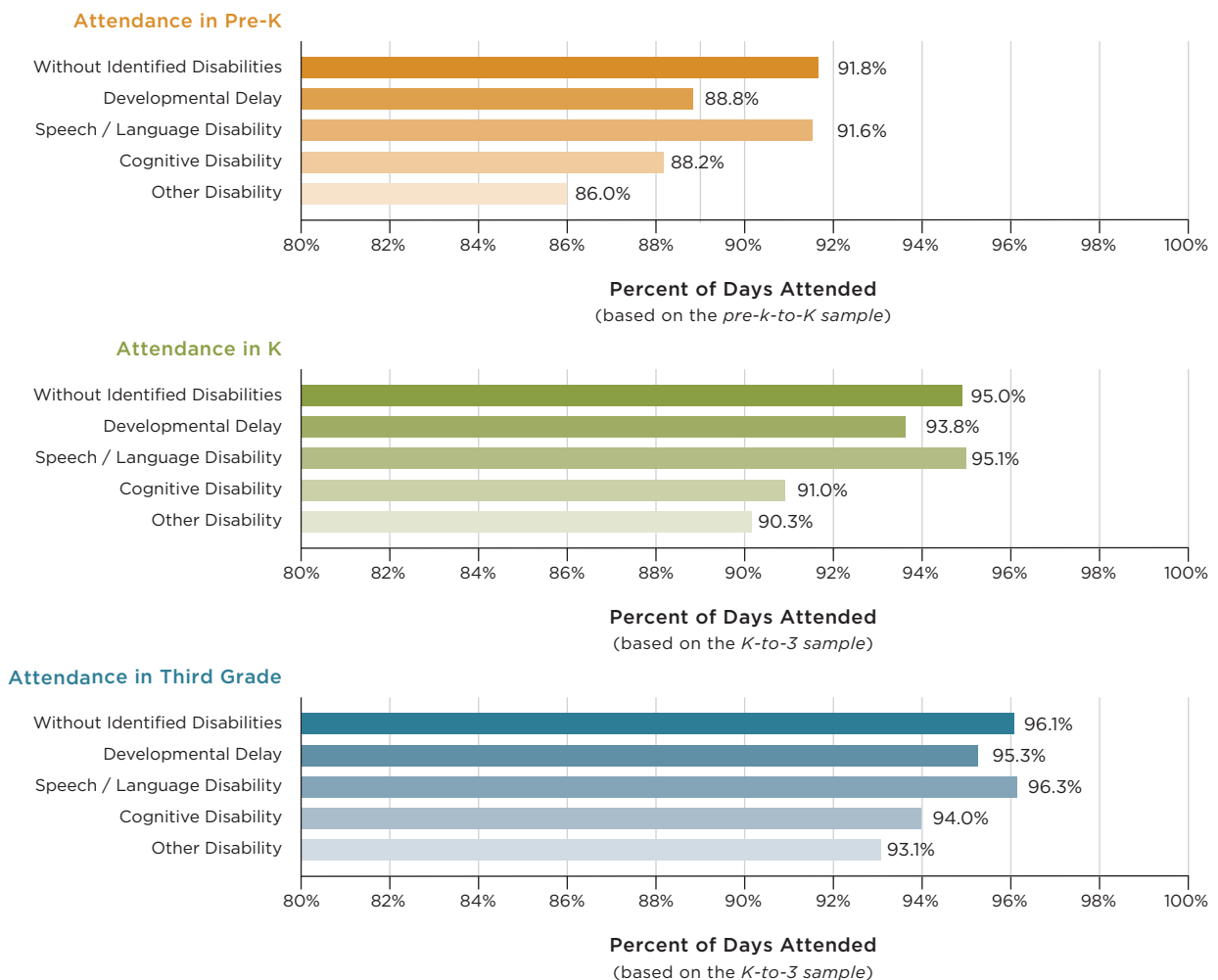
<sup>49</sup> de la Torre et al. (2019).

**ELs with identified disabilities were more likely to miss school, except those with speech and language disabilities.** This is true for attendance in pre-k, in kindergarten, and in third grade (see Figure 10). Attendance increased for all students during the early grades. One trend to notice is that differences among ELs with disabilities and those not identified for special education were smaller by the time they reached third grade. For example, for students with developmental

delay, the difference in attendance in pre-k was 3 percentage points lower, which translated into more than five days; in kindergarten the difference was about two days; it narrowed to one day in third grade.<sup>50</sup> Given the importance of being in school in order to receive services and make progress in learning, this data shows that interventions to improve attendance in the early grades, especially in pre-k and kindergarten, might help students to get the supports they need.

**FIGURE 10**  
**ELs With Identified Disabilities Were Less Likely to Attend School, But Their Attendance Improved Over Time**

*Percent of days attended in pre-k, kindergarten, and third grade, by disability category*



**Note:** These graphs show adjusted differences in attendance rates. These adjusted averages can be read as the average attendance rate for different groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether they had an identified disability and the type of identified disability. These differences were statistically significant between all groups of students with disabilities (except for students with speech and language disabilities) and students without identified disabilities, after adjusting for student characteristics and school factors (see Appendix A for a complete list).

**50** The standard deviations for attendance in pre-k was 7.6 percentage points, 5.2 in kindergarten and 4.3 in third grade. This implies that the difference in attendance in pre-k estimated between students with developmental delay and students with

no identified disabilities of 3 percentage points was equivalent to 0.39 standard deviations; 0.38 standard deviations in kindergarten attendance; and 0.23 standard deviations in third-grade attendance.

**Progress toward acquiring English skills was slower for ELs with identified disabilities; listening and reading domains were the areas with the largest differences.**

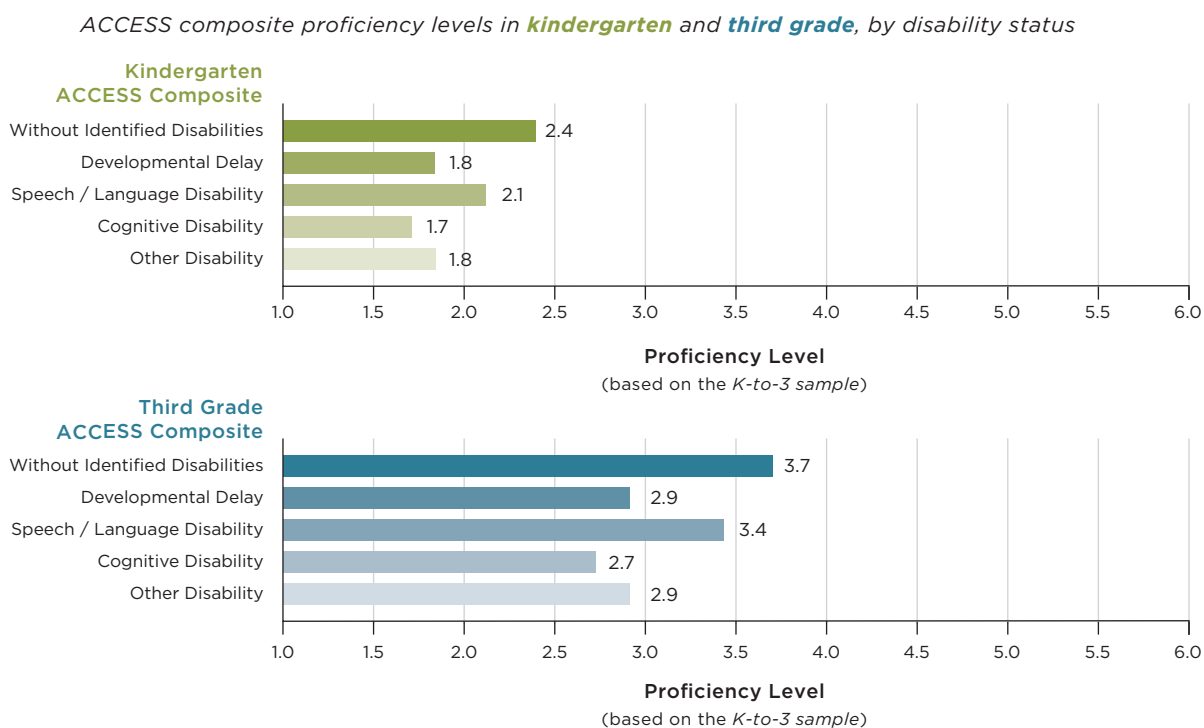
Figure 11 compares the proficiency level in ACCESS for students without identified disabilities and those with disabilities after accounting for other measurable differences like initial English skills assessed in the screener tests. When we compared their ACCESS scores with similar students except for their disability status, we found that their scores were lower, both in kindergarten and in third grade. However, when comparing their scores in kindergarten and third grade, we see that students with disabilities were making progress toward their English proficiency, but at a slower rate. These differences emerged very early, even when we controlled for their initial English proficiency.

Figure 12 shows the third-grade English proficiency levels for different ACCESS domains for ELs with disabilities, compared to students with no identified disabilities and after controlling for all other observable

differences. Speaking was the domain with the lowest proficiency levels for all students. But the largest differences between the proficiency levels of students with no identified disabilities and students with identified disabilities were in the listening and reading domains of ACCESS. Students with a speech and language disability were performing closer to students with no identified disability, among students with identified disabilities.

This chapter presented information on identifying ELs who might benefit from additional help in the early grades. We found that students with low English proficiency levels—as measured by screener tests—were not on par with other ELs by the time they reached third grade. It was particularly difficult for ELs who had an identified disability. Our findings suggest the importance of prioritizing supports for these students, particularly those that will help them strengthen their reading skills. ELs with identified disabilities also had lower attendance than their peers, so schools should focus on addressing attendance issues among this group of students.

**FIGURE 11**  
**ELs With Identified Disabilities Made Progress Toward Acquiring English Skills, but Started Lower Than Other Similar Students Without Identified Disabilities**

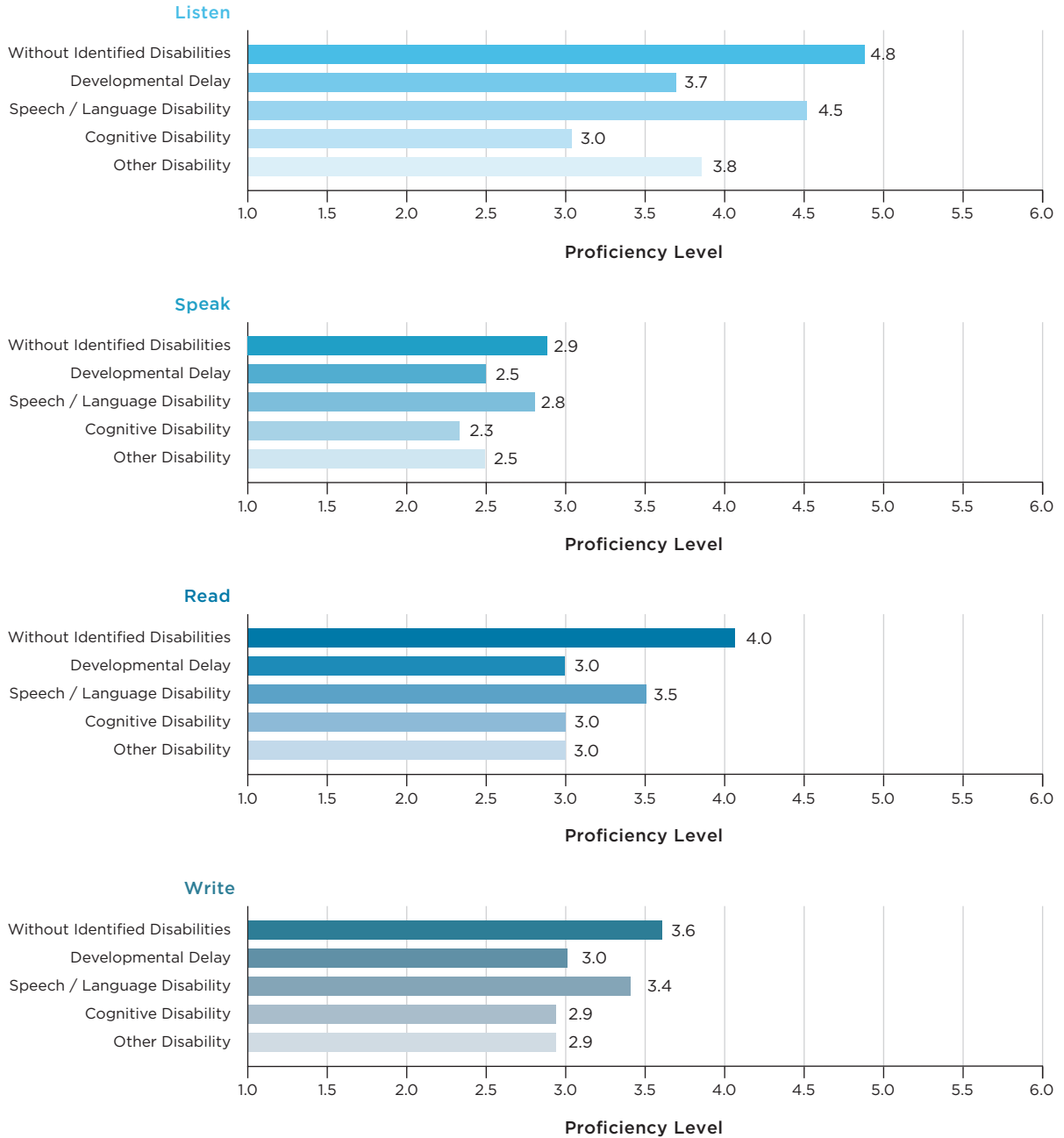


**Note:** Not many students with cognitive disabilities and other disabilities were tested with the regular ACCESS test in third grade; there is an alternate ACCESS test for students with the most significant disabilities. This graph shows adjusted differences in proficiency levels in the ACCESS test. These adjusted averages can be read as the average proficiency level for different groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether they had an identified disability and the type of identified disability. These differences were statistically significant after adjusting for student characteristics and school factors (see Appendix A for a complete list).

**FIGURE 12**

**Listening and Reading Were the Domains Where ELs with Identified Disabilities Struggled the Most Compared to their Peers Without Identified Disabilities**

*ACCESS domains proficiency levels in **third grade**, by disability status (based on the K-to-3 sample)*



**Note:** These graphs show adjusted differences in the proficiency level measured in the different domains tested in ACCESS. These adjusted average proficiency levels can be read as the averages for different groups of ELs who were alike in all student characteristics and school factors included in our models and only differed in whether they had an identified disability and the type of identified disability. These differences were statistically significant between all groups of students with disabilities and students without identified disabilities, after adjusting for student characteristics and school factors (see Appendix A for a complete list).



# Interpretative Summary

In this report we have focused on ELs, students tasked with mastering grade-level content while also learning English. Many ELs go on to have successful academic outcomes, but some start to have difficulties early in school. The environments and supports that young ELs are exposed to during pre-k and the early grades play an important role in the opportunities these students have, ultimately influencing their academic success. It is in the early grades when adults can intervene and take the responsibility for changing the odds for these students.

We show that factors such as enrolling in a CPS pre-k, participating in Bilingual Education Services, and attending a highly rated school were positively associated with better academic outcomes for ELs in terms of attendance, English development, grades, and test scores. Additionally, we found that having low scores on the screener assessments taken at the time of enrollment and certain identified disabilities were associated with ELs having a harder time in school. These students would benefit from additional help to not only advance in their acquisition of academic English, but also to master the content of their classes and improve their learning.

Our findings provide valuable information to help practitioners and policymakers strategize ways to create the conditions to better support EL students and help them succeed in the early grades and beyond. Our work also has insights that could help parents and families make decisions about their children's education. And while parents and families must make decisions for their children, the responsibility for making changes that would support all ELs belongs with adults and institutions in Chicago.

## Considerations for Policymakers

In order to ensure the future success of ELs attending the public schools they serve, policymakers at the local, state, and national level must set a course to provide these students with the support that they need.

Our results have important implications for policies that educational leaders may want to consider around public pre-k, Dual Language Programs, and supporting schools where ELs are not thriving.

**Policymakers may want to include ELs in priority groups for access to pre-k programs.** Our report suggests that participation in publicly provided pre-k programs, particularly in full-day and early programs, is beneficial to ELs' academic success both in the short- and medium-term. As public pre-k programs, including full-day and early opportunities, expand, policymakers may want to prioritize ELs for participation, whether by creating programs in neighborhoods and communities where ELs are likely to live or by granting ELs prioritized access to programs where seats are scarce. Our analyses have identified subgroups of ELs, including ELs with low levels of incoming English skills and ELs with identified disabilities, who seem to need additional support in school—policymakers might consider prioritizing these subgroups for pre-k access. However, as ELs have increased access to pre-k services that will benefit their future academic success, it is important that pre-k programs are able to hire and retain bilingual teachers who can provide adequate language support. As such, policymakers may need to develop strategies around training and retaining a bilingual workforce qualified to teach ELs in early childhood settings.

**In order to evaluate Dual Language Programs that aim to develop bilingual citizens, policymakers may need to provide tools to assess the development of both languages and the necessary time to fully understand their benefits.** Our findings also have implications for policymakers' consideration of Dual Language Programs, particularly as they evaluate these programs. We found that ELs attending Dual Language programs had somewhat lower results in terms of English proficiency and reading standardized test scores by the end of the third grade. However, our study may not have been well-positioned to capture the true long-term effects of Dual Language Programs, as other research cited in Chapter 1 finds that ELs in Dual Language Programs have equal or stronger English skills than their EL peers by middle school. Dual Language Programs strengthen ELs' skills in their home language and may also be beneficial for their cultural identity development. This suggests that policymakers seeking to evaluate Dual Language Programs should consider as many years of data as possible. Furthermore, another reason our study may not have been well positioned to capture the full impacts of Dual Language Programs is that none of the outcomes we examined in the third grade were measured in students' home language. Development of ELs' home language proficiency is a major goal of Dual Language Programs, and policymakers seeking to discern the complete effects of such programs may need to provide their schools with adequate tools that will allow them to assess and monitor students' language development.

**Policymakers might consider providing some schools with additional resources to support them and to ensure the success of ELs these schools serve.** Our findings demonstrate that some schools, particularly schools with lower school quality ratings and schools with large percentages of ELs with low English proficiency level measured by screener tests may need additional support to help ELs achieve academic success. Policymakers might consider providing these schools with additional resources to ensure the success of their ELs recognizing that these schools might need very different supports.

## Considerations for Practitioners

As the population of ELs grows in Chicago and across the nation, more and more practitioners will be involved in making schools engaging places where ELs can learn and thrive. Our findings can be used by practitioners to provide helpful information for parents and families making decisions regarding Bilingual Education Services offered in school. Likewise, our results provide relevant data that practitioners can use to identify students early who may benefit from additional supports and targeted assistance.

**Once families enroll their EL in a school, practitioners can help them understand that Bilingual Education Services are beneficial for their students' learning.**

While some families might believe that refusing services will help their children develop English skills faster, our findings show that is true only in the short-run. Eventually, without the scaffolding that Bilingual Education Services provide, students start falling behind, not only in English skills but in mastering grade-level content. In addition, students who refused services did not come to school as often as those who did not. This is worrisome as attendance is related to academic success and it could indicate a problem with school engagement. Being excited to come to school might be harder for students when it is difficult to follow and participate in their classes. Practitioners should ensure that parents who are choosing whether to refuse Bilingual Education Services are aware of these potential consequences.

**Practitioners can rely on data from screener tests to support ELs early on.** Early warning indicators have become very popular in the last few years because they can help practitioners to identify students for targeted resources and interventions, and their use has improved student outcomes. Practitioners involved with ELs do not need to wait a few years to identify which ELs struggle in their academic performance because they have an available tool in the early days to help them identify students for targeted assistance. Our findings indicate that data from screener tests administered to determine the level of students' English skills can be used to identify students for further support.

ELs who start school in the early stages of English development are the ones who struggle with their academic performance. Practitioners could use interventions in both English and the home language that focus on improving reading and listening as these are two areas in which these students were farther behind compared to other ELs. In addition, ELs who are in the early stages of developing English skills have similar or higher school attendance compared to other ELs. This is encouraging, since attendance is essential for student learning and growth, and also means that these ELs are likely to be present at normal rates for any targeted instructional strategies practitioners may want to implement.

**Practitioners may need to pay particular attention to ELs who are also identified for special education services.** We found that when entering CPS, students with identified disabilities were also more likely to score in the lower English proficiency level of the screeners. This will allow targeting these students early on for support as noted in the previous point about relying on data from screener tests. In addition, we found that families of students with identified disabilities were more likely to refuse Bilingual Education Services, which was related to lower school performance in the future. Practitioners could help families understand that their children are entitled to both special education and Bilingual Education Services. Practitioners and departments that support ELs and students with identified disabilities should work together to ensure that students can smoothly receive both types of services. However, perhaps the biggest task when it comes to ELs with identified disabilities is the issue of attendance. We found that their attendance was lower than other ELs. Understanding why students are not coming to school and providing the support needed to remedy this should be a top priority for practitioners working with ELs with disabilities. When students are not in school, they cannot receive services of any kind.

## Considerations for Parents and Families of ELs

Parents and guardians of ELs must make important decisions regarding their child's education and select

options that will adequately support them in achieving their full potential. Our findings can be useful for families, although families need for policymakers, practitioners, and institutions to take responsibility to increase access to pre-k, especially full-day pre-k, and strengthen the schools that serve their children.

**Families may want to prioritize early enrollment in CPS pre-k and enrollment in full-day programs when possible.** When it comes to their children's early education, parents have many options, including school-based pre-k programs. Our findings show that attending public school-based pre-k was related to better outcomes for ELs, both in kindergarten and the third grade, five years after students attended CPS pre-k. In particular, we found that more exposure to CPS pre-k, such as enrolling earlier than four-years-old and participating in full-day programs, was associated with ELs' kindergarten readiness in terms of English development and early reading skills. Amid the ongoing efforts to expand full-day pre-k access across the city, these findings are especially relevant for ELs' families making decisions about where to enroll their children and prioritizing early-enrollment and full-day programs when possible.

**Before deciding about whether their children should receive Bilingual Education Services, parents and guardians should be aware of the long-term benefits of participating in such services.** Families have the right to refuse Bilingual Education Services. Our results suggest that some of the benefits of Bilingual Education Services are not immediately apparent but show up later in a students' education. For instance, although ELs whose parents or guardians refused services had stronger English proficiency scores in kindergarten, by the end of the third grade, they were less likely to demonstrate English proficiency on ACCESS and had lower GPA and math and reading NWEA outcomes. Similarly, in the short term, the ELs in our sample who were enrolled in Dual Language Programs did not show positive results on outcomes measured in English when compared to their peers. However, prior research has found that despite obtaining lower scores in the early grades, ELs in dual language settings score higher than other ELs by middle school. Importantly,

for students learning English as a second language, it takes between five to seven years to develop the academic language skills often measured on standardized tests.

**Families looking to enroll their children in CPS could consider the rating of a school as a valuable metric in addition to other school characteristics.** Ultimately, parents look at different characteristics when choosing schools and programs for their children. One useful and publicly available metric for parents and families is a school's accountability rating. While not a flawless measure of school quality, CPS accountability ratings include indicators of the school's academic success and contributions to student learning as well as other measures that reflect the composition of the student body. Our study found that ELs enrolled in higher-rated schools had better outcomes on standardized tests than

those who attended lower-rated schools. These findings suggest that a school accountability rating is a good indicator for EL academic success on some outcomes that may matter to parents and families as they consider school choices.

Supporting ELs is a matter of urgency given the growing number of ELs in the U.S. Many ELs go on to be very strong students, but some need more support in order to have a successful experience in school. As parents, teachers, and policymakers make decisions on how to best support ELs, we have identified a few priority areas that require particular attention. Our findings were based on students from pre-k to third grade, an important time to set students on a positive path in school. With the right supports early on, ELs can participate and thrive in school and beyond, contributing their talents and skills in their communities and society at large.

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# Appendix A

## Data and Methods

### Data

Data for the analysis comes from CPS administrative records, including information on demographics, school enrollment, grades, test scores and personnel information, and public data. All these data sources are linked together using a unique student identifier and school identifiers.

**TABLE A.1.**  
Description of Variables and Data Sources

Variables	Descriptions
<b>Student Characteristics</b>	Demographic variables such as gender, date of birth, race/ethnicity, identified disability (having an IEP), free or reduced-price lunch eligibility (FRPL), socioeconomic status at the census block level, temporary living situation status (homelessness), EL status, and home language.
<b>English Language Screener Tests</b>	<p>Analyses included students’ incoming English skills in terms of the proficiency level attained in the screener test they take when first enrolling in CPS. Students with a home language other than English—based on parents answers to the Home Language Survey—must be assessed through an English language screener within the first 30 days of the students’ enrollment.</p> <ul style="list-style-type: none"> <li>• Preschool students (aged 3, 4, and 5) are screened using the <i>Pre-IPT Oral English Language Proficiency Test</i>. The test is administered individually, ideally by a bilingual educator, and is scored in five proficiency levels (A to E). Four-year-old students who score below E are eligible for Bilingual Education Services and identified as ELs.</li> <li>• Students are only screened once during pre-k but every student whose Home Language Survey indicated they spoke a language other than English at home must be re-screened upon kindergarten entry using <i>WIDA Model for Kindergarten (Model K) Test</i>. The MODEL K is an individually administered, adaptive assessment. Kindergarten students only take the oral portion (speaking and listening domains) of the test. Test scores are divided into six proficiency levels and students who score below level 5 are eligible to receive Bilingual Education Services.</li> </ul>
<b>Bilingual Programs</b>	<p>CPS Office of Language and Culture (OLCE) provided administrative records regarding ELs whose parents or guardians refused Bilingual Education Services and schools’ bilingual programs.</p> <ul style="list-style-type: none"> <li>• We were able to identify schools who were offering Dual Language services and the grade-levels in which those Bilingual Education Services were available. In CPS all Dual Language programs in CPS are offered in Spanish-English. We generated a student-level indicator equal to 1 if the student was enrolled in a school offering a Dual Language program in their grade-level, did not refuse Bilingual Education Services and their home language was Spanish</li> <li>• Additionally, CPS conducts audits to schools providing Bilingual Education Services to assess their compliance with State mandates. Schools were assessed using a rubric based on different criteria (i.e., compliance with State mandates, consistency of services provided) and rated in one of four levels: Minimal, Partial, Established, and Exemplary. During 2016 to 2018, not all schools participated in the audits. We created a binary indicator equal to one if schools were not rated during those years. For schools rated in at least one year, we created an indicator equal to one if the school was ever rated as minimal (the lowest level).</li> </ul>

Variables	Descriptions
Test Scores	<p>Students' performance in standardized assessments that measured their early reading skills in kindergarten, their English proficiency level in K-3 grade, and their skills in math and reading in third grade.</p> <ul style="list-style-type: none"> <li>• <b>Student performance on the Text Reading Comprehension Test (TRC)</b> administered in the fall of kindergarten. The TRC assessment is an early literacy formative assessment for grades K-2 that measures a range of skills including reading fluency, accuracy and comprehension. Tests are administered three times a year (fall, winter, and spring). The kindergarten fall test assesses early print concepts and reading behaviors in pre-readers, as well as students' instructional reading level using a series of leveled books. Their performance on the test will then be classified in one of four proficiency levels: Well Below Proficient, Below Proficient, Proficient, or Above Proficient. We created a binary indicator equal to one if students performed at or above proficient. TRC is also available in Spanish to assess Spanish literacy development for ELs whose primary language of instruction is Spanish. When available, we used students' Spanish test data and included in the models a binary indicator equal to one if the language of the test administered was Spanish.</li> <li>• <b>Student performance on the ACCESS for ELLs Test (ACCESS).</b> The test measures students' academic English proficiency in four domains: reading, writing, speaking, and listening. ELs take the ACCESS K-12, until they score above the state-determined cut-off and are considered English proficient. Students' ACCESS scores reflect their English proficiency levels ranging from Level 1 (Entering) to Level 6 (Reaching).</li> <li>• <b>Student performance on the NWEA-MAP Test (NWEA) in math and reading</b> in the spring testing window. Students' scaled scores are transformed into percentile ranks to describe how well they are performing relative to other students in a nationwide normative sample. Generally, students take the NWEA tests in English. However, in our <i>K-to-3 sample</i>, 3.27 percent of third-grade ELs who took the math portion of the NWEA took the test in Spanish.</li> </ul>
Grades	<p>Students' third-grade grades (GPA) in reading and math. Students' GPA is the average of final grades earned in these on a 4-point scale where an A=4. Reading GPA was computed based on the final grades earned in the Chicago Reading Framework.</p>
Attendance	<p>Percent of days attended is the proportion of the number of days attended (present in school) out of the number of days enrolled. Students who were enrolled for fewer days than a school quarter (45 days) were excluded from the sample.</p>
School Ratings	<p>The CPS School Quality Rating Policy (SQRP) is the district's policy for measuring annual school performance. The SQRP uses a five-tiered performance system based on a broad range of indicators of success, including students' test score performance and academic growth, attendance, school culture and climate, among other measures at the school-level. A schools' quality rating is based on the weighted points it receives in each of the indicators measured. For example, a rating of Level 1+ or 1 indicates a good standing status, while a Level 3 Rating indicates schools in need of intensive support. For more information on SQRP see <a href="https://www.cps.edu/about/district-data/metrics/sqrp/">https://www.cps.edu/about/district-data/metrics/sqrp/</a></p>
5Essentials	<p>Every year, the UChicago Consortium administers the <i>5Essentials Survey</i> (formerly known as <i>My Voice, My School</i>) to CPS principals, teachers, and students in middle school and high school. Surveys ask about learning climate, student-teacher relationships, leadership, and quality of the school's instructional program. to learn their views on and experiences in our public schools. Some of the measures included in the survey were conceptualized into the <i>5Essentials</i> framework, which identified five key elements that influenced a school's effectiveness and students' learning: Effective Leaders, Collaborative Teachers, Involved Families, Supportive Environment, and Ambitious Instruction (for more information on the <i>5Essentials</i> framework and specific measures see <a href="https://uchicagoimpact.org/our-offerings/5Essentials">https://uchicagoimpact.org/our-offerings/5Essentials</a>).</p> <p>As a way of measuring a school's climate, our analysis included <i>5Essentials</i> measures captured as school-level precision-weighted means that aggregated individual Rasch survey measures. We only included those <i>5Essentials</i> measures that rely on principal's and teachers' reports (Effective Leaders, Collaborative Teachers, Involved Families), since many of the elementary schools included in our sample did not enroll students in grades 6-12, and we did not have enough data on the Supportive Environment and Ambitious Instruction measures which rely on students' self-report.</p>



Variables	Descriptions
<b>Personnel Data</b>	<p>Data on teachers is based on 20th day employment files and accomplishment files from the Talent Office at CPS. The accomplishment files provide information on teachers' bilingual and English as a Second Language (ESL) endorsements. Based on this information and the number of ELs at the school we computed the ratio of ELs per bilingual endorsed teacher and the ratio of ELs per ESL endorsed teacher. For pre-k, these ratios were based on the number of ELs and endorsed teachers at the pre-k level only. For kindergarten (<i>K-to-3 sample</i>) ratios reflect the number of ELs in the whole school divided by the number of endorsed teachers at the school. For the analysis, these ratios were divided into terciles.</p>
<b>Preschool Variables</b>	<p>In addition to data on student's enrollment in a CPS pre-k, the Early Childhood Education Office at CPS provided capacity files with information regarding full-day program participation in CPS pre-k. These files indicated whether a classroom was a full-day class, a half-day class, or third shift (which we considered as half-day). Files were matched to a students' homeroom class as of the fall of the school year. The full-day variable used in the analysis is a binary indicator equal to 1 if the student was attending a full-day classroom, and 0 otherwise.</p>
<b>School Characteristics</b>	<p>Schools in our samples were characterized based on whether it was a charter school, the grade-levels available to students, the general student-body composition, and EL-specific student-body composition.</p> <ul style="list-style-type: none"> <li>• <b>Charter school:</b> Binary indicator equal to 1 if the school was charter.</li> <li>• <b>Grade-level structure:</b> Schools in our sample offered different grade-level structures to their students. While some schools only offered pre-k through fifth grade or pre-k to K, most schools extended to sixth grade and beyond. We included indicators for these three combinations in our analyses.</li> <li>• <b>School composition:</b> We included variables based on the demographic characteristics of the student body served at the school. For the <i>pre-k-to-K sample</i>, these variables considered pre-k students only and for the <i>K-to-3 sample</i> these variables considered kindergarten students only. These variables included the percent of students who were free or reduced-price lunch eligible, the percent of students with an IEP, and the racial/ethnicity composition of the school. Racial/ethnic composition variables were mutually exclusive and indicated whether the school's student body was at least 85 percent Black, at least 85 percent Latinx, at least 85 percent Black/Latinx combined or over 15 percent White/Asian.</li> <li>• <b>EL student-body composition:</b> Included the percent of the student body identified as ELs at the school, and a binary variable indicating if four or more non-English languages were represented at the school among ELs. In accordance to the way CPS determines the number of ELs for Bilingual Education Services purposes, the <i>pre-k-K sample</i> variables included ELs at the pre-k level only, and the <i>K-to-3 sample</i> variables considered ELs in the whole school. Additionally, we included the English proficiency level of pre-k and K ELs based on their performance on the screener tests. For the <i>pre-k-to-K sample</i>, we included the percent of ELs scoring at lowest screener level (Beginning) in the Pre-IPT test. For the <i>K-to-3 sample</i>, we computed the average score in the Model K screener at the school level and divided it into terciles.</li> </ul>

## Methods

To explore the relationship between ELs' outcomes and student and school factors in the early grades, we conducted a series of two-level hierarchical linear models (HLM) where students were nested within schools.

ELs in the *pre-k-to-K sample* were nested in their pre-k site, while ELs in the *K-to-3 sample* were nested in their kindergarten school. This statistical technique allows for simultaneously investigating the relationships of student and school factors with outcomes, making it more efficient at accounting for variation between students and among schools.

Level one in the models is the student level, where we have one observation per student. Level two models schools (with one observation of each school in each year).

The models for all outcomes were specified as follows:

### Level-1 Model (students):

$$\text{Outcome}_{ij} = \pi_{0j} + \sum_{k=1}^K \pi_{kj} * (\text{Student Controls}_{ij}) + e_{ij}$$

### Level-2 Model (schools):

$$\pi_{0j} = \beta_{00} + \sum_{m=1}^M \beta_{0m} * (\text{School Controls}_j) + r_{0j}$$

$$\pi_{kj} = \beta_{k0}, \text{ for all } k$$

where  $e_{ij}$  is an error term normally distributed with a mean of zero and variance  $\sigma^2$  and  $r_{0j}$  is a random effect associated with schools. It is assumed to have a mean of zero and variance  $\tau_{00}$ . Student and school characteristics that were accounted for in our HLM models are presented in **Table A.2**.

**TABLE A.2**  
Variables Used in *Pre-k-to-K Sample* and *K-to-3 Sample* Analyses and Outcomes Analyzed

	Student-Level Covariates	School-Level Covariates	Outcomes
<b>Pre-k-to-K</b>	Cohort, gender, home language, homeless, FRPL, SES, identified disability, age at pre-k, refused Bilingual Education Services in pre-k, attended CPS pre-k when 3 years-old, attended pre-k at same site as 3 and 4 years-old, full-day pre-k, enrolled in school with fewer than 20 same-language ELs, enrolled in a Dual Language program.	<ul style="list-style-type: none"> <li>• School composition</li> <li>• School ratings and <i>5Essentials</i></li> <li>• EL student-body composition</li> <li>• Ratio of ELs per certified ESL/Bilingual teachers</li> <li>• EL program audits</li> <li>• Other school characteristics (charter, grade-level structure).</li> </ul>	<ul style="list-style-type: none"> <li>• Attendance in pre-k</li> <li>• Model K screener oral proficiency at K entry</li> <li>• TRC (Text Reading Comprehension) proficiency during fall semester (smaller sample of students).</li> </ul>
<b>K-to-3</b>	Cohort, gender, home language, homeless, FRPL, SES, identified disability, age at K, refused Bilingual Education Services in K, attended CPS pre-k, attended same pre-k and K school, attended same K and third school, enrolled in school with fewer than 20 same-language ELs, enrolled in a Dual Language program.	<ul style="list-style-type: none"> <li>• School composition</li> <li>• School ratings and <i>5Essentials</i></li> <li>• EL student-body composition</li> <li>• Ratio of ELs per certified ESL/Bilingual teachers</li> <li>• EL program audits</li> <li>• Other school characteristics (charter, grade-level structure).</li> </ul>	<p><b>Kindergarten:</b></p> <ul style="list-style-type: none"> <li>• Attendance</li> <li>• ACCESS (composite &amp; domains)</li> </ul> <p><b>Third Grade:</b></p> <ul style="list-style-type: none"> <li>• Attendance</li> <li>• English proficient by 3rd</li> <li>• ACCESS - if not proficient - (composite &amp; domains)</li> <li>• NWEA (Read &amp; Math)</li> <li>• GPA (Read &amp; Math)</li> </ul>

# Appendix B

## Sample Characteristics

### Pre-k-to-K Sample

We identified students in the *pre-k-to-K sample* as ELs based on a state flag that indicated whether students were active ELs by the 20th day of enrollment. Given that some students may have enrolled later in the year or may have taken the Pre-IPT English proficiency screener test past the 20th day, our EL group also includes 655 students who were not flagged as active ELs but took the test and didn't meet the exit criteria. Namely, students who obtained a letter score of A-C, or a D if they haven't enrolled in preschool as three-year-olds. The Pre-IPT screener test establishes different exit criteria depending on students' age. From our data, we cannot tell the exact date when students were tested. For this reason, if a student was enrolled in preschool as a three-year-old and took the Pre-IPT test we assume that the students' exit criteria was applied to determine the eligibility for Bilingual Education Services.

In the *pre-k-to-K sample*, not every student took the Text Reading Comprehension Test (TRC) at the beginning of their kindergarten year. Only 56 percent of ELs took the TRC in either English or Spanish (41 percent of TRC takers took the test in Spanish). Compared to ELs who did not take the TRC at the beginning of kindergarten, tested ELs were more likely to be eligible for free or reduced-price lunch (93 percent) and less likely to have an IEP (14 percent).

### K-to-3 Sample

We identified students in the *K-to-3 sample* as ELs based on whether they took the ACCESS test of English

proficiency, regardless of the scores they obtained. The large majority of ELs in the *K-to-3 sample* (97 percent) took the ACCESS test for the first time in kindergarten. Students who took ACCESS when in first, second, or third grade were also included as part of the sample. Because ACCESS is required by the state for all ELs, identifying ELs based on who took the test allows us to follow both ELs who received services and those who did not. ELs in grades 1-12 who have significant cognitive disabilities can take the alternate ACCESS, a modified version of the exam. In our sample, only six students took the alternate ACCESS in kindergarten and 247 students (1.5 percent of the sample) took it in third grade. Since we did not have proficiency scores for students taking the alternate version of the test, these students were excluded from the analyses where ACCESS proficiency levels were set as outcomes.

ELs in CPS take the ACCESS test each year to examine their English proficiency. If they score above the state-determined threshold they are no longer classified as ELs. In our *K-to-3 sample*, 9 percent of ELs demonstrated proficiency in the ACCESS test before third grade. These students no longer took the ACCESS test in third grade, thus were not included in the analyses on ACCESS proficiency scores in third grade.

The box *Sample and Methods Used in This Study* on p.8-9 in the introduction describes the two samples that were included in this study. The following tables present the demographic characteristics of these samples broken down by the different subgroups that were analyzed throughout the report in each specific section.

## Chapter 1: Engagement with a CPS Pre-K

**TABLE B.1**  
Demographic Characteristics by CPS Pre-K Enrollment

	<i>Pre-k-to-K Sample</i>				<i>K-to-3 Sample</i>	
	Half-Day	Full-Day	CPS pre-k Before Age 4	CPS pre-k Only at Age 4	No CPS pre-k	CPS pre-k
<b>Number</b>	2,701	11,357	7,656	6,402	7,388	9,263
<b>Male*</b>	50.2%	53.5%	52.8%	52.9%	51.6%	52.4%
<b>Spanish Speaker</b>	90.0%	83.5%	83.7%	86.0%	80.9%	88.4%
<b>Eligible for FRPL</b>	94.4%	91.7%	92.1%	92.3%	90.3%	94.8%
<b>Having an IEP**</b>	13.6%	17.2%	21.6%	10.5%	6.8%	16.1%
<b>Refused Bilingual Education Services</b>	0.7%	0.5%	0.9%	0.2%	3.0%	3.5%
<b> Screener pre-IPT Beginner</b>	55.5%	53.0%	64.4%	40.3%	—	—
<b> Screener Model K Entering</b>	—	—	—	—	53.2%	55.9%

\* Historically, CPS has collected data that groups students into one of two gender categories: male and female. Not all students identify with one of these categories, and we hope in the future to be able to report data that more fully describes the identities of CPS students.

\*\* We refer to students with an Individualized Education Plan (IEP) as students with an identified disability throughout the report. In CPS, they are also referred to as diverse learners. An IEP is created after a child has been evaluated and found eligible to receive special education and related services.

## Chapter 1: Participation in Bilingual Education Services

**TABLE B.2**  
Demographic Characteristics by Bilingual Education Services

	<i>K-to-3 Sample</i>			
	Refused Bilingual Education Services	Received Bilingual Education Services	Enrolled in Dual Language Program	Did not enroll in Dual Language Program
<b>Number</b>	547	16,104	1,162	15,489
<b>Male*</b>	59.8%	51.8%	50.2%	52.2%
<b>Spanish Speaker</b>	94.7%	84.7%	100.0%	84.0%
<b>Eligible for FRPL</b>	88.5%	93.0%	92.0%	92.9%
<b>Having an IEP**</b>	22.3%	11.6%	9.0%	12.2%
<b>Full-Day Pre-K</b>	1.8%	0.8%	0.3%	0.8%
<b>Attended CPS Pre-K</b>	58.9%	55.5%	55.0%	55.7%
<b> Screener Model K Entering</b>	40.2%	55.2%	53.4%	54.8%

\* Historically, CPS has collected data that groups students into one of two gender categories: male and female. Not all students identify with one of these categories, and we hope in the future to be able to report data that more fully describes the identities of CPS students.

\*\* We refer to students with an Individualized Education Plan (IEP) as students with an identified disability throughout the report. In CPS, they are also referred to as diverse learners. An IEP is created after a child has been evaluated and found eligible to receive special education and related services.

## Chapter 1: Enrollment in a Highly Rated School

**TABLE B.3**

**Sample Demographics for English Learners by School's Quality Ratings (SQR)**

	<i>Pre-k-to-K Sample</i>					<i>K-to-3 Sample</i>				
	Level 1+	Level 1	Level 2+	Level 2	Level 3	Level 1+	Level 1	Level 2+	Level 2	Level 3
<b>Number</b>	4,860	10,171	2,276	3,132	3	5,381	10,990	3,503	5,130	13
<b>Male*</b>	52.6%	52.3%	53.8%	53.5%	66.7%	51.7%	51.7%	52.9%	52.6%	84.6%
<b>Spanish Speaker</b>	75.0%	82.8%	90.5%	90.6%	33.3%	71.0%	80.4%	93.9%	94.9%	84.6%
<b>Eligible for FRPL</b>	89.2%	91.5%	96.2%	96.2%	100.0%	88.4%	91.5%	96.1%	96.6%	100.0%
<b>Having an IEP**</b>	15.3%	15.1%	14.6%	16.2%	0.0%	11.2%	11.2%	12.4%	12.5%	61.5%
<b>Full-Day Pre-K</b>	14.3%	16.0%	30.8%	31.1%	66.7%	—	—	—	—	—
<b>Attended CPS Pre-K</b>	—	—	—	—	—	52.6%	54.2%	57.4%	58.7%	76.9%
<b>Refused Bilingual Education Services</b>	0.4%	0.5%	0.5%	0.4%	0.0%	2.2%	2.8%	4.1%	4.0%	0.0%
<b>Screeener pre-IPT Beginner</b>	50.8%	52.3%	56.8%	56.3%	33.3%	—	—	—	—	—
<b>Screeener Model K Entering</b>	—	—	—	—	—	46.4%	51.0%	58.5%	60.7%	53.8%

\* Historically, CPS has collected data that groups students into one of two gender categories: male and female. Not all students identify with one of these categories, and we hope in the future to be able to report data that more fully describes the identities of CPS students.

\*\* We refer to students with an Individualized Education Plan (IEP) as students with an identified disability throughout the report. In CPS, they are also referred to as diverse learners. An IEP is created after a child has been evaluated and found eligible to receive special education and related services.

## Chapter 2: English Language Skills Measured at Time of School Enrollment

**TABLE B.4**

**Sample Demographics for ELs by Screener Test Level**

	<i>Pre-k-to-K Sample</i>				<i>K-to-3 Sample</i>			
	Beginner	Early Intermediate	Intermediate	Early Advanced	Entering	Emerging	Developing	Expanding
<b>Number</b>	7,514	4,255	1,213	1,072	9,105	2,607	2,729	1,965
<b>Male*</b>	54.8%	50.4%	52.3%	49.6%	52.8%	52.4%	50.9%	49.6%
<b>Spanish Speaker</b>	86.7%	83.0%	82.6%	80.7%	88.1%	81.9%	81.3%	81.2%
<b>Eligible for FRPL</b>	94.8%	91.0%	88.0%	83.8%	95.2%	91.6%	90.4%	87.5%
<b>Having an IEP**</b>	23.6%	10.4%	5.7%	3.6%	15.3%	10.1%	7.6%	4.4%
<b>Full-Day Pre-K</b>	19.9%	19.2%	19.3%	14.2%	—	—	—	—
<b>Attended CPS Pre-K</b>	—	—	—	—	56.9%	53.9%	55.4%	52.8%
<b>Refused Bilingual Education Services</b>	0.5%	0.9%	0.6%	0.1%	2.4%	3.0%	5.1%	5.6%

\* Historically, CPS has collected data that groups students into one of two gender categories: male and female. Not all students identify with one of these categories, and we hope in the future to be able to report data that more fully describes the identities of CPS students.

\*\* We refer to students with an Individualized Education Plan (IEP) as students with an identified disability throughout the report. In CPS, they are also referred to as diverse learners. An IEP is created after a child has been evaluated and found eligible to receive special education and related services.

Chapter 2: Identified Disabilities

TABLE B.5

Sample Demographics for ELs by Special Education Disability Categories

	Pre-k-to-K Sample					K-to-3 Sample				
	Developmental Delay	Cognitive Disability	Speech/Language Disability	Other Disability	No IEP	Developmental Delay	Cognitive Disability	Speech/Language Disability	Other Disability	No IEP
<b>Number</b>	1,333	279	631	81	11,734	978	271	571	169	14,662
<b>Male*</b>	73.6%	79.9%	69.6%	61.7%	48.9%	72.4%	76.0%	73.2%	65.7%	49.2%
<b>Spanish Speaker</b>	86.0%	74.9%	89.2%	84.0%	84.6%	87.3%	79.0%	89.5%	88.2%	84.8%
<b>Eligible for FRPL</b>	92.6%	86.7%	90.8%	87.7%	92.4%	94.6%	84.9%	95.6%	90.5%	92.8%
<b>Full-Day Pre-K</b>	15.9%	3.6%	21.2%	13.6%	19.9%	—	—	—	—	—
<b>Attended CPS Pre-K</b>	—	—	—	—	—	74.7%	82.3%	69.2%	81.7%	53.0%
<b>Refused Bilingual Education Services</b>	0.8%	1.4%	0.8%	2.5%	0.5%	6.4%	8.1%	5.1%	4.7%	2.9%
<b>Screener pre-IPT Beginner</b>	77.6%	92.8%	65.6%	81.5%	48.9%	—	—	—	—	—
<b>Screener Model K Entering</b>	—	—	—	—	—	71.4%	85.6%	63.0%	63.3%	52.6%

\* Historically, CPS has collected data that groups students into one of two gender categories: male and female. Not all students identify with one of these categories, and we hope in the future to be able to report data that more fully describes the identities of CPS students.

# Appendix C

## Student and School Level Variability on EL Outcomes

Using the *pre-k-to-K sample*, we ran a series of HLM models for three outcomes: 1) pre-k attendance, 2) English proficiency at kindergarten entry measured by the Model K screener test, and 3) early literacy skills measured by the TRC test. **Table C.1** presents information of the variance components and the percent of variance explained under different models. Similarly, we ran a series of HLM models using the *K-to-3 sample* for different outcomes measured in kindergarten and third grade and present information on **Tables C.2 through C.4**.

For all outcomes, we first ran an unconditional model without explanatory variables to understand how much of the outcomes’ variation was at the student level (level 1), and at the school level (level 2). For example, **Table C.1** shows that 8 percent of the total variation in pre-k attendance was between schools, while 92 percent was at the student level. A larger proportion of the variance was between schools for most outcomes compared to attendance in any grade we studied. This suggests that students’ attendance was less influenced by the school characteristics included in our models than it was the case for other outcomes.

Next, we introduced student controls in the HLM models and present the percent of variance explained in both levels. Just introducing student controls tended to explain a large portion of the variance between schools indicating that the distribution of ELs across the pre-k sites and kindergarten schools was not uniform.

Our final step incorporated school level controls to our models. Given that some of the variables were correlated with each other, we ran models introducing a set of variables at a time to determine how much of the remaining variance (after introducing student controls) they explained alone. The final row in each table shows the information from a model with all the student and school controls included at the same time.

In general, school characteristics did not explain a lot of the remaining variation in outcomes after controlling for student characteristics. One exception was attendance, but there was not a lot of variation between schools for this outcome in pre-k, kindergarten and third grade. The only school characteristic with a high percent of variance explained that was consistent across some of the outcomes was the school quality ratings, as we highlighted in Chapter 1.

**TABLE C.1**  
Information on the Variance Components and Variance Explained for Models on *Pre-k-to-K Sample*

	Pre-K Attendance	Model K Screener	TRC at Fall of K
<b>Unconditional Model</b>			
%var at level 2	8%	14%	13%
<b>Model with Student Controls</b>			
%var explained at level 1	4%	23%	6%
%var explained at level 2	22%	26%	9%
<b>Models Adding School Controls</b>			
% remaining var explained at level 2			
• School Composition	9%	7%	1%
• School Ratings	3%	4%	1%
• <i>5Essentials</i>	0%	1%	2%
• EL Student-Body Composition	8%	6%	2%
• ELs Teachers	4%	2%	2%
• ELs Programs Audits	4%	0%	0%
• Other School Characteristics	17%	0%	1%
• All	33%	15%	10%

**TABLE C.2**

**Information on the Variance Components and Variance Explained for Kindergarten Outcomes—*K-to-3 Sample***

	Attendance	ACCESS Composite	ACCESS Speaking	ACCESS Listening	ACCESS Reading	ACCESS Writing
<b>Unconditional Model</b> %var at level 2	9%	28%	21%	16%	21%	30%
<b>Model with Student Controls</b> %var explained at level 1	4%	22%	27%	26%	11%	15%
%var explained at level 2	32%	42%	32%	37%	41%	33%
<b>Models Adding School Controls</b> % remaining var explained at level 2						
• School Composition	20%	4%	3%	4%	3%	4%
• School Ratings	5%	3%	1%	1%	3%	5%
• <i>5Essentials</i>	0%	3%	0%	1%	3%	5%
• EL Student-Body Composition	8%	6%	2%	5%	5%	4%
• ELs Teachers	16%	13%	10%	9%	12%	10%
• ELs Programs Audits	7%	4%	1%	0%	5%	3%
• Other School Characteristics	11%	10%	8%	7%	10%	7%
• All	39%	22%	17%	19%	21%	19%

**TABLE C.3**

**Information on the Variance Components and Variance Explained for Third-Grade Outcomes—*K-to-3 Sample***

	Attendance	Reading GPA	Math GPA	Reading NWEA	Math NWEA
<b>Unconditional Model</b>	8%	8%	9%	13%	16%
<b>Model With Student Controls</b> %var explained at level 1	3%	6%	4%	13%	10%
%var explained at level 2	60%	21%	21%	47%	43%
<b>Models Adding School Controls</b> % remaining var explained at level 2					
• School Composition	25%	3%	1%	3%	3%
• School Ratings	-4%	1%	1%	13%	19%
• <i>5Essentials</i>	0%	4%	3%	2%	4%
• EL Student-Body Composition	1%	7%	7%	1%	1%
• ELs Teachers	7%	3%	4%	2%	3%
• ELs Programs Audits	2%	0%	1%	0%	0%
• Other School Characteristics	-2%	0%	0%	0%	0%
• All	33%	18%	18%	18%	23%



**TABLE C.4**Information on the Variance Components and Variance Explained for Third-Grade ACCESS Outcomes—*K-to-3 Sample*

	Proficient by Third	ACCESS Composite	ACCESS Speaking	ACCESS Listening	ACCESS Reading	ACCESS Writing
<b>Unconditional Model</b>	11%	9%	10%	4%	6%	10%
<b>Model With Student Controls</b>						
%var explained at level 1	7%	15%	6%	10%	10%	13%
%var explained at level 2	60%	40%	26%	47%	37%	31%
<b>Models Adding School Controls</b>						
% remaining var explained at level 2						
• School Composition	4%	1%	1%	4%	0%	1%
• School Ratings	6%	15%	6%	8%	14%	16%
• <i>5Essentials</i>	10%	1%	1%	4%	1%	1%
• EL Student-Body Composition	7%	3%	3%	2%	5%	2%
• ELs Teachers	6%	7%	6%	17%	4%	5%
• ELs Programs Audits	0%	0%	0%	10%	0%	1%
• Other School Characteristics	0%	2%	0%	16%	0%	2%
• All	25%	29%	16%	40%	27%	23%

## ABOUT THE AUTHORS

**MARISA DE LA TORRE** is a Senior Research Associate and Managing Director at the UChicago Consortium. Her research interests include urban school reform, school choice, early indicators of school success, and English Learners. Before joining the UChicago Consortium, Marisa worked for the Chicago Public Schools in the Office of Research, Evaluation, and Accountability. She received a master's degree in economics from Northwestern University.

**SILVANA FREIRE** is a Research Analyst at the UChicago Consortium. In this role, she conducts quantitative research to learn more about the experiences of CPS students and to identify relevant factors that play a key role in students' academic success and equitable learning opportunities. Before joining the UChicago Consortium, Silvana worked as a Research Assistant at the Graduate School of Education at Stanford University, while she was getting her MA degree in international education policy analysis.

**ALYSSA BLANCHARD** is a Research Analyst at the UChicago Consortium. Her current research focuses on the academic experiences of English Learners and on the principal pipeline in Chicago. Prior to joining the UChicago Consortium, she worked at the Tennessee Education Research Alliance. She received an MPP in educational policy and a BA in public policy from Vanderbilt University.

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*This report reflects the interpretation of the authors. Although the UChicago Consortium's Steering Committee provided technical advice, no formal endorsement by these individuals, organizations, or the full Consortium should be assumed.*

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# UCHICAGO Consortium on School Research

1313 East 60th Street  
Chicago, Illinois 60637

**T** 773.702.3364

**F** 773.702.2010

**@UChiConsortium**  
**consortium.uchicago.edu**

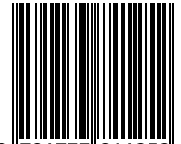
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