Evaluating Hypotheses to Maximize Success for Special Populations of Early Learners

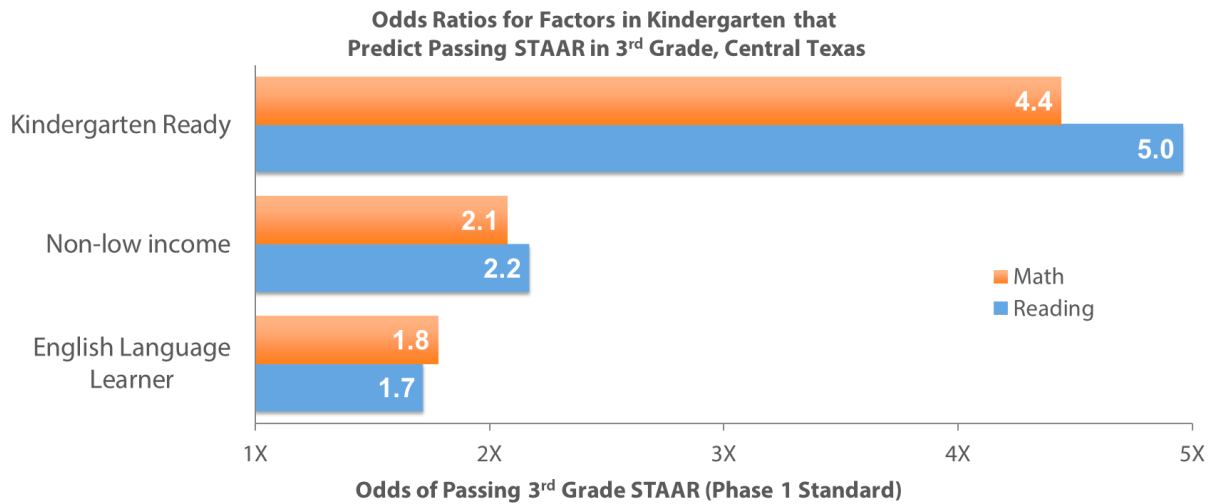E3 Alliance
July 2020

Introduction

E3 Alliance is a regional, data-driven education collaborative based in Austin, Texas. We are helping to build the strongest educational pipeline in the country to drive regional economic prosperity. We are focused on educational systems change, and use data to inform those efforts. Given that our approach to supporting educational improvement is fundamentally 'data driven', data from the University of Texas ERC plays a key role in our ability to provide objective, actionable data to practitioners in the region.

In pursuit of systemic change, E3 Alliance is guided by *The Blueprint for Educational Change,* Central Texas' strategic plan for improving the educational pipeline from 'cradle to career'. E3 Alliance has developed a comprehensive set of education and related workforce statistics over the past decade that provide our region with critical information necessary to understand the education and related workforce issues facing our region, to develop well-grounded strategies in response, to change instructional policies and practices, and to allow the assessment of progress over time. Each year, E3 Alliance produces the Annual Central Texas Education Profile, the most comprehensive regional view of educational trends and outcomes in Texas at https://data.e3alliance.org/.

A key priority of our work has always focused on early learners. E3 Alliance's early childhood research includes (1) creation of *Ready, Set, K!*, a Kindergarten Readiness Assessment designed to measure children's Kindergarten Readiness across the Social-Emotional Development, Emerging Literacy, Language and Communication, and Early Numeracy domains; (2) the Kindergarten Readiness Study, launched in 2010 to determine what portion of Central Texas children enter kindergarten ready for school using the *Ready, Set, K!* Assessment as well as factors associated with readiness (e.g. full-day, low-ratio Pre-K); (3) Longitudinal correlation of readiness with later outcomes including 3rd grade reading and math proficiency, and (4) annual updates to our Central Texas Profile, which tracks various early childhood education metrics.
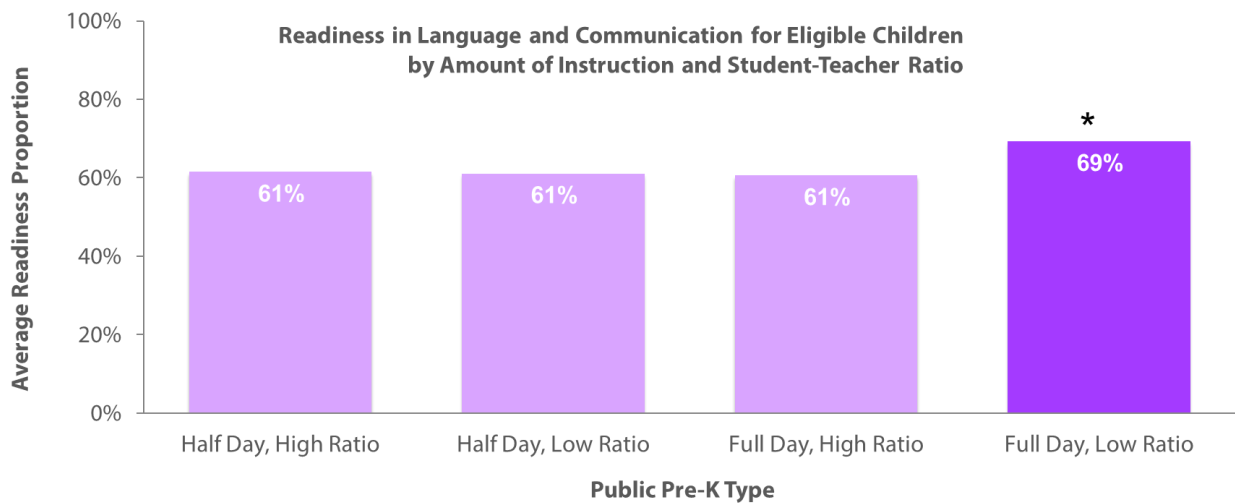
Importance of School Readiness for Early Learners

School readiness remains a crucial part of E3 Alliance's work because our previous research shows that Kindergarten Readiness is linked to later academic success—specifically third-grade performance outcomes. Kindergartens are 4.4 to 5 times more likely to pass their third-grade STAAR tests if they entered kindergarten "school ready." We find that kindergarten assessment results are highly predictive of both reading and math success in third grade, and Kindergarten Readiness is more predictive of third-grade success than any demographic factor (e.g., income status).

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Odds Ratios for Factors in Kindergarten that Predict Passing STAAR in 3rd Grade, Central Texas

Kindergarten Ready — Math: 4.4, Reading: 5.0
Non-low income — Math: 2.1, Reading: 2.2
English Language Learner — Math: 1.8, Reading: 1.7

Legend: Math, Reading

Odds of Passing 3rd Grade STAAR (Phase 1 Standard) (1X, 2X, 3X, 4X, 5X)

E3 Alliance analysis of *Ready,Set,K!* and data at the Education Research Center at UT Austin; odds ratios from model with income, ELL, gender, ethnicity, Kinder ready status as predictors; Kindergarten in 2011-12
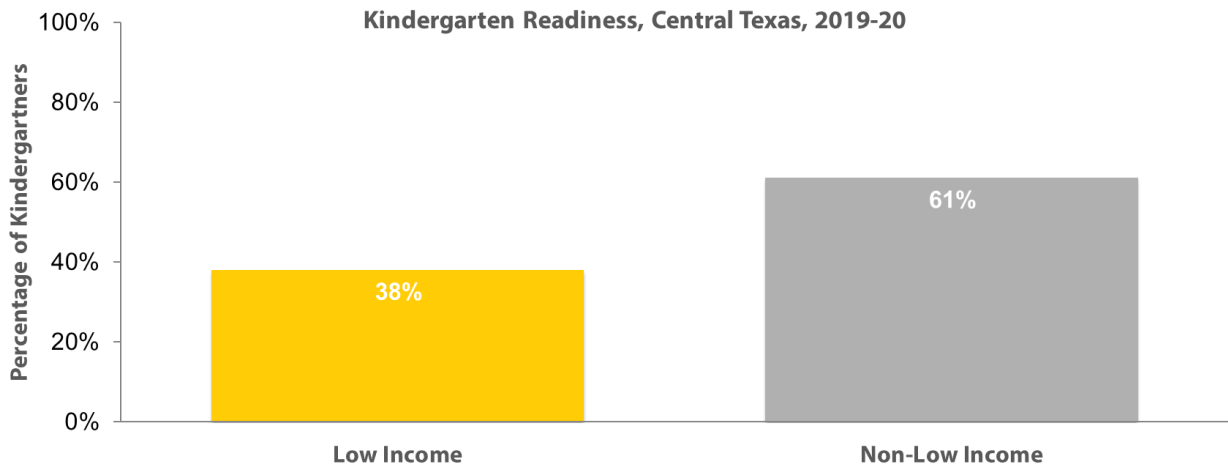
Our research also demonstrates that the type of early learning environment is linked to Kindergarten Readiness. Students who participate in full day, low ratio Pre-K, for example, score nearly ten percentage points higher in the Language and Communication domain than students who participate in any half day Pre-K or full day, high ratio Pre-K.

Readiness in Language and Communication for Eligible Children by Amount of Instruction and Student-Teacher Ratio

Average Readiness Proportion:
- Half Day, High Ratio: 61%
- Half Day, Low Ratio: 61%
- Full Day, High Ratio: 61%
- Full Day, Low Ratio: 69% *

Public Pre-K Type

Greater readiness than other groups, p = .002
Eligible = Low income and/or English Language Learner; Low Ratio is <=15 students/teacher
Source: E3 Alliance analysis of Central Texas *Ready,Set,K!* data from 2010-11 to 2014-15

Differences in School Readiness Outcomes by Socioeconomic Status

E3 Alliance's research shows that there are significant differences in early learning outcomes by both income and race/ethnicity. Over the last decade, our data indicates that low-income students of all races/ethnicities are consistently less likely to enter kindergarten "school ready" than their non-low-income peers. Non-low-income students score, on average, twenty percentage points higher than their low-income peers.

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Kindergarten Readiness, Central Texas, 2019-20

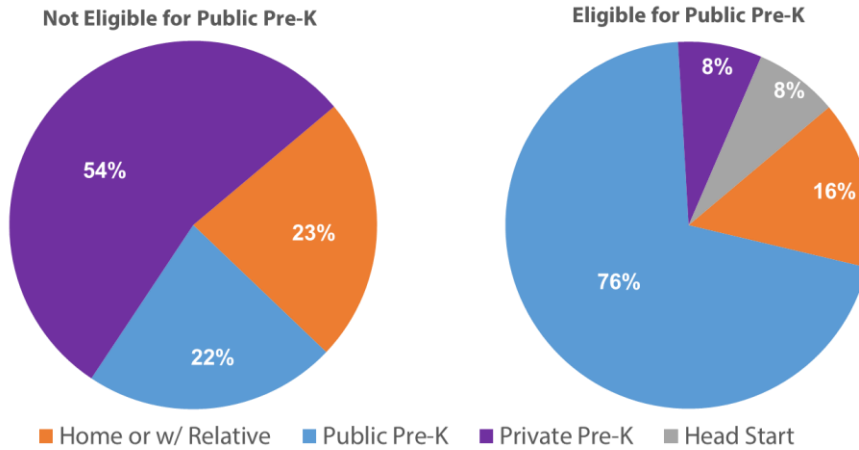Source: E3 Alliance Analysis of *Ready,Set,K!* weighted data

Our school readiness data also highlights differential outcomes by race/ethnicity. Black and Hispanic students enter kindergarten with significantly lower Kindergarten Readiness scores than their white peers. After controlling for income, non-low-income white students have readiness rates much higher than their Hispanic and Black peers, though the readiness rate is consistent for low-income students across all races/ethnicities.

Kindergarten Readiness, Central Texas, 2013-14 to 2018-19
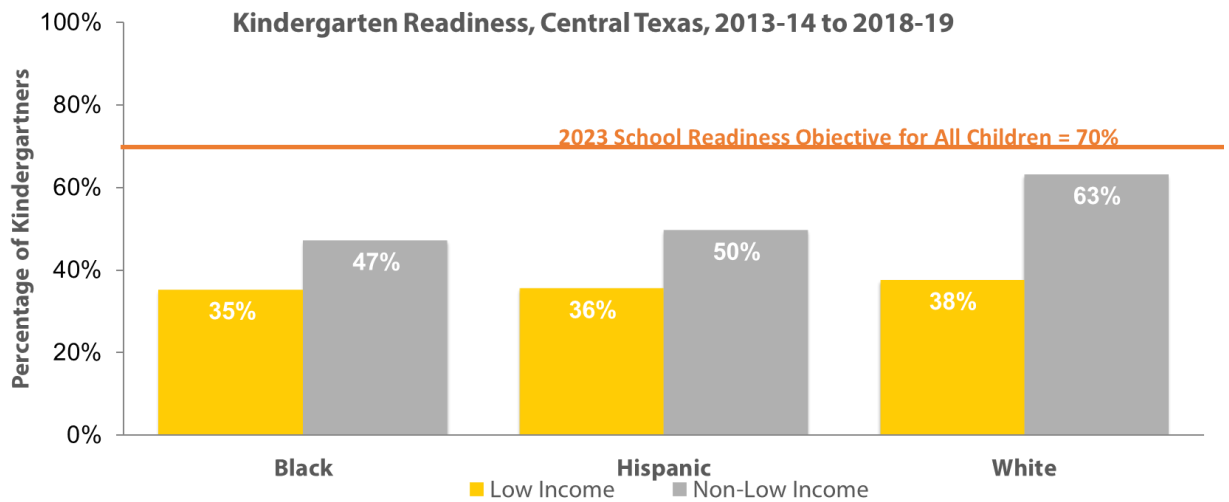
Source: E3 Alliance Analysis of *Ready,Set,K!* weighted data

Importantly, our research demonstrates that children who attend a Pre-K program are more likely to enter "school ready" than children who stay at home. Consequently, Pre-K utilization data from the ERC is a valuable resource for understanding both the rates of Pre-K utilization and implications for later learning outcomes.

Student Enrollment in Any Pre-K Program in the Year Prior to Kindergarten, 2018-2019

Not Eligible for Public Pre-K

- 54%
- 23%
- 22%

Eligible for Public Pre-K

- 8%
- 8%
- 16%
- 76%

■ Home or w/ Relative ■ Public Pre-K ■ Private Pre-K ■ Head Start

E3 Alliance Analysis of *Ready, Set, K!* weighted data, Central Texas; Prior Experience known for 92% of sample
Students Eligible for Public Pre-K at no cost to families are low income and/or Limited English Proficient

Policy Recommendations

In addition to providing analysis of early learning data obtained from the ERC, E3 Alliance continues to be involved with early learning initiatives in the community. The United Way for Greater Austin and E3 Alliance formed *Early Matters Greater Austin* (EMGA) to facilitate the business community's engagement in raising awareness and helping lead a strategic community-wide effort to set policies and priorities for early childhood education. EMGA leaders have testified repeatedly to the school finance commission, city and county leaders, and others, and their testimony has often leveraged E3 data. E3 Alliance also gathered *Early Childhood Results Count,* a coalition of health, mental health, and education partners who worked together to define five community strategies for increasing Kindergarten Readiness as the measure for child experiences 0-5, after a precipitous drop in school readiness of children across our region.

The 2019 Legislative session closed with important policy wins for early learners. Most notably, based largely on E3 Alliance analysis of ERC data, HB 3 included provisions for funding full day Pre-K across the state for eligible students. E3 Alliance provided key data examining the relationship between Pre-K programs and Kindergarten Readiness. We were then able to tie students' Kindergarten Readiness to their third-grade test scores. This data helped advocates and legislators more clearly understand the positive association between full day, low ratio Pre-K programs and Kindergarten Readiness for students, as well as the longer-term association with third-grade performance outcomes. E3 Alliance also strongly supported HB 680 to provide a PEIMS number for children under six enrolled in the Texas Workforce Commission's child care programs. In addition, E3 Alliance worked with advocates to support SB 708, which directed the Health and Human Services Commission to collect data on child-to-staff ratios in child care facilities.

Because of the many changes to Pre-K and early education during the last session, it is now more important than ever to explore the many different metrics related to school readiness. E3 Alliance will continue to examine patterns of school readiness, with a focus on equity as part of our Central Texas Education Profile for years to come.

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