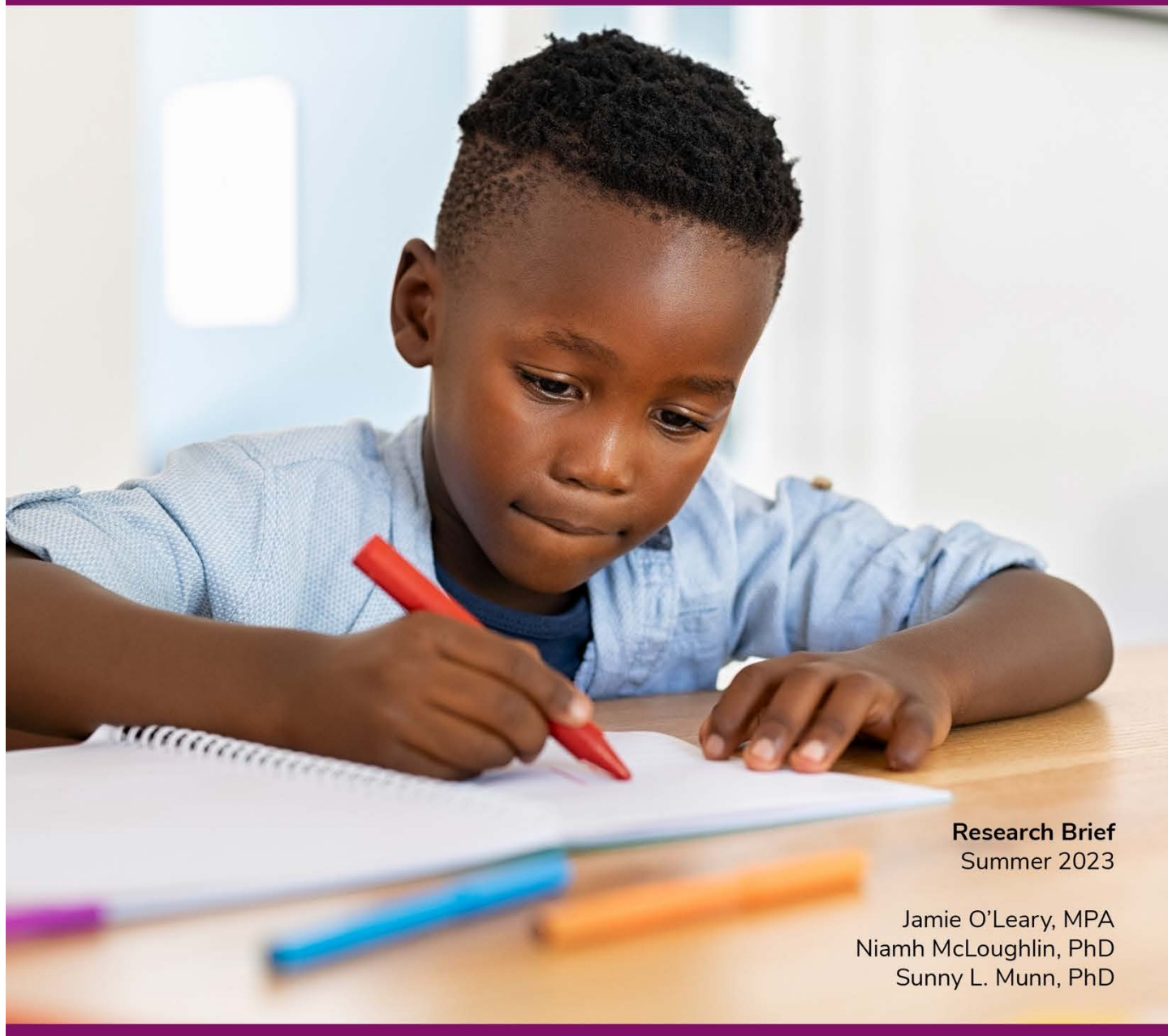


# Kindergarten Readiness Among Children Participating in Early Start Columbus

An Analysis of State KRA Data (2021 & 2022) and Overall Trends



Research Brief  
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## BACKGROUND

Since 2014, Columbus Mayor Andrew Ginther has made significant investments in high-quality pre-kindergarten (pre-K) through the Early Start Columbus (ESC) initiative. ESC partners with the Ready 4 Success (R4S) program at The Ohio State University's Schoenbaum Family Center to provide professional development opportunities for early childhood educators and coaching for the implementation of *Read It Again!*, an early language and literacy curriculum supplement. ESC links qualifying families to high-quality pre-K programs at low or no cost to prepare children for kindergarten. City funds are meant to supplement existing state funds for pre-K, such as the state Early Childhood Education (ECE) grant and Publicly Funded Child Care (PFCC) so that funding streams can be braided together and enhance the quality of early learning programming. The ESC initiative provides funds toward pre-K slots in Columbus City Schools and community-based providers that earn three or more stars in the state's Step Up to Quality rating system.

This additional investment in high-quality pre-K is critical, especially given Columbus' relatively low pre-K attendance compared to other cities. A 2021 analysis by the Crane Center for Early Childhood Research and Policy found that a lower proportion of children under age 5 in Franklin County attended out-of-home pre-K arrangements (about 50%) than children nationally (60%) (Justice, Ansari, et al., 2021). Dedicated local funding for pre-K is an important lever toward increasing access for more Columbus children, and addressing racial and socioeconomic disparities that drive gaps in kindergarten readiness.



## RESEARCH QUESTION

### **DOES ESC HELP PREPARE COLUMBUS CHILDREN FOR KINDERGARTEN?**

By investing in funding for eligible families to attend highly rated pre-K programs, the City hopes to enhance kindergarten readiness and enable more children and families to arrive at school prepared for success in formal schooling. There is broad evidence regarding the role of high-quality pre-K in preparing children for schooling and later life achievements. But what, if anything, can be determined about the ESC initiative and whether it promotes kindergarten readiness in Columbus as intended? To help answer this question, we examined data on the kindergarten readiness scores of children who participated in the ESC program and for whom kindergarten readiness data were available the following year. In other words, we asked: how did children enrolled in pre-K programs receiving ESC funds fare the next year at kindergarten entry when they were assessed on their skills? And how did this compare to children across Franklin County and statewide?

## ANALYSIS & FINDINGS

### **KINDERGARTEN READINESS AMONG ESC PARTICIPANTS: AVERAGE SCORES**

We analyzed descriptive data from the state's kindergarten readiness assessment (KRA) as delivered during the fall of 2021 and fall of 2022 and compared the mean scores to children who had attended

an ESC-funded pre-K program the year prior. Data for the fall of 2020 were unavailable, as COVID-19 restrictions put a temporary pause on the regular implementation of the KRA.

For 2021, KRA scores were available for 380 children who attended an ESC-funded pre-K during the 2020-21 school year. For 2022, KRA scores were available for 310 children.

Table 1 describes the three score bands used to determine a child’s level of readiness – emerging, approaching, or demonstrating – on the KRA.

**Table 1.** Bands Categorizing Children’s Kindergarten Readiness on Ohio’s Kindergarten Readiness Assessment

Emerging Readiness	202-257	Exhibits minimal readiness skills
Approaching Readiness	258-269	Exhibits some foundational readiness skills
Demonstrating Readiness	270-298	Exhibits full spectrum of readiness skills

*Note:* We use the term *band* to refer to KRA *categories* established by the Ohio Department of Education with respect to children’s KRA scores.

Tables 2 and 3 provide descriptive statistics for the KRA overall scores as well as component scores, including mean, standard deviation (SD), and range.

**Table 2.** KRA Scores for Columbus ESC Participants, Franklin County Kindergarteners and Ohio Kindergarteners, Fall 2021

Measure	ESC Participants Fall 2021			Franklin County Kindergarteners Fall 2021	Ohio Kindergartner Fall 2021
	Mean	SD	Range	Mean	Mean
<b>Overall Score</b>	268	12.6	237- 298	266	266
Language and Literacy	266	15.7	232-298	264	264
Social Foundations	282	17.2	223-296	*	*
Mathematics	265	15.7	206-296	*	*
Physical Well-Being	276	12.8	244-286	*	*

*Note:* Franklin County kindergarteners’ data is based on fall of 2021 KRA scores. (The number of Franklin County children was not provided in the datasheet.) Ohio kindergarteners’ data is based on scores for 116,530 children from Ohio (116,493 children for the Language and Literacy measure) (Ohio Department of Education (A), n.d.).

\*The data for Social Foundations, Mathematics, Physical Well-Being were not reported in the county and state datasheets; therefore, this information is unavailable.

In 2021, ESC participants' mean KRA score fell near the upper range (268) of the *Approaching Readiness* band (258-269). ESC participants demonstrated a slightly higher overall mean KRA score, as well as an elevated Language & Literacy score, compared to the average scores of Franklin County and Ohio kindergartners. This occurred, despite the fact that some children enrolled in ESC-funded classrooms may be relatively more “at risk” for lower performance, based on family income and other socioeconomic factors that correlate with test performance, than the average family in Franklin County or Ohio as a whole. According to eligibility criteria, ESC participants must live in households earning less than 300% of the federal poverty level.

**Table 3.** KRA Scores for Columbus ESC Participants, Franklin County Kindergartners and Ohio Kindergartners, Fall 2022

Measure	ESC Participants Fall 2022			Franklin County Kindergartners Fall 2022	Ohio Kindergartener Fall 2022
	Mean	SD	Range	Mean	Mean
<b>Overall Score</b>	269	12.4	234- 298	264	264.5
Language and Literacy	266	14.4	228-298	262	262.2
Social Foundations	280	17.6	207-296	*	*
Mathematics	265	15.9	206-296	*	*
Physical Well-Being	277	12.4	244-286	*	*

Note: Franklin County kindergartners' data is based on fall of 2022 KRA scores. (The number of Franklin County children was not provided in the datasheet.) Ohio kindergartners' data is based on scores for 112,137 children from Ohio (112,126 children for the Language and Literacy measure) (Ohio Department of Education (B), n.d.).

KRA Fall 2022 scores, as shown in Table 3 – show ESC participants with a higher average KRA score than the prior year while kindergartners in Franklin County and Ohio both scored lower on average than the previous year. That is, the gap in mean scores grew, with ESC-funded pre-K children scoring even better in comparison, on average – both on the overall score and on Language and Literacy.

## KINDERGARTEN READINESS AMONG ESC PARTICIPANTS: LEVEL OF READINESS

Another way to measure how ESC participants fared at kindergarten entry is by looking at the individual score bands and the proportion scoring within each, as shown in Tables 4 and 5. Children at *Emerging Readiness* show minimal skills and behaviors needed to be taught kindergarten standards; those at *Approaching* exhibit some, but likely not all, needed skills; those at *Demonstrating* are prepared for kindergarten instruction.

**Table 4.** KRA Bands for Columbus ESC Participants, Franklin County Kindergarteners and Ohio Kindergarteners, Fall 2021

Band	Scores	Percentage of ESC Participants	Percentage of Franklin County Kindergarteners	Percentage of Ohio Kindergarteners
Emerging Readiness	202-257	17%	30%	28%
Approaching Readiness	258-269	39%	32%	34%
Demonstrating Readiness	270-298	44%	38%	38%

Table 4 shows that 83% of ESC participants exhibited kindergarten readiness scores in the upper two bands in 2021, scoring either *Approaching* or *Demonstrating Readiness*. More children in ESC-funded pre-K programs scored in the higher bands compared to the county and state as a whole; 70% of kindergarteners in Franklin County and 72% of Ohio kindergarteners scored in the higher two KRA bands. Among those *Demonstrating Readiness* – the highest score band – ESC participants outperformed both their county and statewide peers by six percentage points.

**Table 5.** KRA Bands for Columbus ESC Participants, Franklin County Kindergarteners and Ohio Kindergarteners, Fall 2022

Band	Scores	Percentage of ESC Participants	Percentage of Franklin County Kindergarteners	Percentage of Ohio Kindergarteners
Emerging Readiness	202-257	18%	32%	30%
Approaching Readiness	258-269	36%	33%	35%
Demonstrating Readiness	270-298	46%	35%	35%

Data from the 2022 KRA depict similar results for ESC participants, with over eight in ten or 82% scoring in the highest readiness bands (*Approaching* and *Demonstrating*). More children who attended an ESC-funded pre-K demonstrated readiness for kindergarten on the KRA than children county-wide or statewide, by 11 percentage points. That is, while the proportion of kindergarteners attaining the highest score band fell across Franklin County and the state from 2021 to 2022, it *grew* among the ESC-funded children (for whom we had data) – from 44% to 46%.

**Among students *Demonstrating Readiness* – the highest score band – ESC participants outperformed both their county and statewide peers. In 2021, they outperformed them by six percentage points; in 2022, they outperformed their peers by 11 percentage points.**

## BUILDING KINDERGARTEN READINESS SKILLS AMONG THE LOWEST SCORING CHILDREN

Importantly, ESC appears to reduce the risk of children exhibiting minimal readiness skills as indicated by scores in the lowest *Emerging Readiness* band. In 2021, only 17% of ESC participants scored in the *Emerging Readiness* band, as compared to 30% of Franklin County children and 28% of kindergarteners statewide. In 2022, that percentage was 18% for ESC participants compared to 32% in Franklin County and 30% in Ohio.

This pattern can be observed in an earlier analysis of ESC and KRA scores by Justice, Jiang et al., 2021. Their analysis of Fall 2019 KRA data (matched to 2018-19 ESC participants) found that relatively fewer ESC children than children statewide entered kindergarten with limited readiness (*Emerging*) that year. Only 15% of ESC children scored in the *Emerging Readiness* band, whereas 41% of kindergartners statewide scored in the lowest readiness band (Justice, Jiang, et al., 2021).

As our Crane colleagues have shown through past research on kindergarten readiness and later reading ability, children's scores within these three readiness bands have considerable predictive power for later reading achievement. An analysis by Justice, Khoury, and Logan (2019), showed that children scoring within the *Emerging Readiness* band on the KRA were highly likely to underperform at later grades on the state's third-grade reading exam. They found that among children who scored *Emerging Readiness* in kindergarten, nearly three in four or 74% did not achieve a passing promotion score on the later third-grade reading assessment. Among those who scored *Demonstrating Readiness*, the highest band, 77% achieved a passing score three years later on the state's reading exam (Justice et al., 2019).

Children scoring *Emerging Readiness* at kindergarten entry represent some of our most vulnerable students, many of whom will likely have difficulty reading. If the ESC program can curb this risk, ensuring that an overwhelming majority enter kindergarten with skills indicating at least a moderate degree of readiness – that is significant.

## LIMITATIONS

These descriptive data should not be interpreted causally; we cannot determine that ESC participation itself caused higher KRA scores. Additionally, the analyses were limited to the number of ESC children for whom KRA data were available. However, dedicated local funding for pre-K can certainly make important early learning options more accessible to families who need them, and is a growing part of local early learning initiatives across the nation. When considered alongside research that high-quality pre-K can have positive impacts on a child's schooling success, the results suggest that participation in the City of Columbus ESC program can improve children's kindergarten readiness and reduce the numbers who arrive at school lacking skills that predict later reading and schooling difficulties.



## CONCLUSIONS

Early Start Columbus provides dedicated local funding for high-quality pre-K programs serving many of our community's most vulnerable children. Combined with state and federal early learning funds, ESC enhances pre-K programs that operate within Ohio's quality framework – a system that requires greater resources.

Across three years of data, according to the state's KRA, children who have attended ESC-funded pre-K programs arrive to kindergarten ready to learn at higher rates than their peers countywide or statewide. This is true, despite many ESC-funded programs serving very high numbers of children living in poverty as well as minoritized children. Additionally, far fewer ESC participants score among the most at-risk categories on the KRA, a score band that predicts future reading and schooling struggles.

**Across three years of data, according to the state's KRA, children who have attended ESC-funded pre-K programs arrive to kindergarten ready to learn at higher rates than their peers countywide or statewide.**



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## AUTHOR NOTE

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