Cincinnati Public Schools
Kindergarten Readiness Assessment Revised (KRA-R) Report

2022-2023

### Summary of Overall and Language & Literacy Outcomes

Contents

Executive Summary

Overview

This report summarizes the Kindergarten Readiness Assessment Revised (KRA-R), which measures academic readiness and literacy skills as well as Social Foundations (socio-emotional development), Mathematics, Physical Well-Being, and Motor Development. The KRA-R is administered to all Kindergarten students in the state of Ohio, including students within the CPS district, beginning as early as July 1 and ending no later than the twentieth day of instruction during the academic year. The data included in this report for the 2022-23 academic year were provided by CPS and have been analyzed by *INNOVATIONS* in Community Research and Program Evaluation of Cincinnati Children's Hospital Medical Center in partnership with CPS. The current report focuses on the KRA-R composite score (overall Kindergarten Readiness score) and the Language and Literacy subtest score. The composite scaled score (overall score) on the KRA-R is determined by a student's set of skills and behaviors across four subtests. The KRA-R measures readiness through performance levels: Emerging Readiness (Scores of 0-257), Approaching Readiness (Scores of 258-269), and Demonstrating Readiness (Scores at or above 270). A scaled score of 263 and above on the Language and Literacy subtest indicates that a student is "On Track" for Kindergarten.

Summary of 2022-23 KRA-R Results

Assessments were completed by 2,347 CPS Kindergarten students during the 2022-23 academic year. Students achieved a mean overall scaled score of 261.4 (SD = 15.6), with 27.6% demonstrating readiness. On the Language and Literacy subtest, students had an average score of 259.8 (SD = 18.4) and 39.4% were On Track for reading by third grade.

KRA-R Results for 2022-23 CPS Kindergarteners
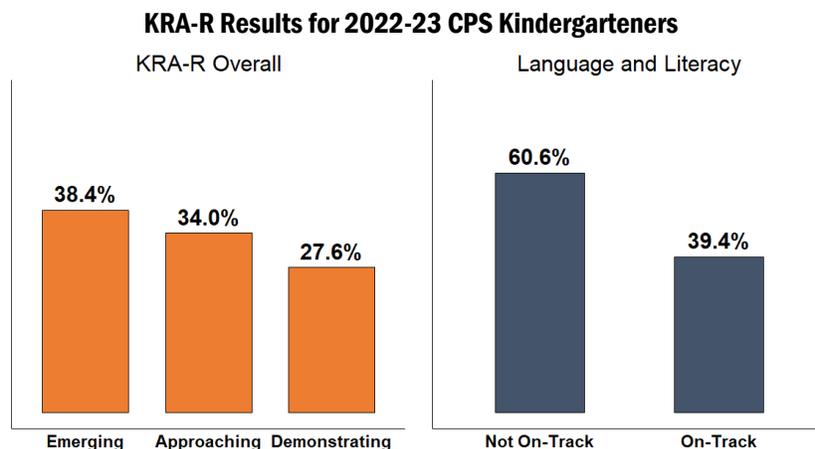
Demographics

Of the 2022-23 CPS Kindergarten cohort, 49.4% were female and 50.6% were male. The racial breakdown was 58.2% Black/African-American, 23.1% White, 8.9% Hispanic, 8.4% Multi-racial, and 1.4% Other/Unknown, and 39.0% of students had Documented CPS Preschool experience.

Socioeconomic Status

The socioeconomic status (SES) quartile metric is used as a proxy for income and social factors. SES characteristics for census tracts were estimated using methodology detailed in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). Cincinnati and surrounding metropolitan area census tract statistics were extracted from the 2021 American Community Survey (ACS) - 5 Year Estimates. Five SES indicators were used to rank census tracts by socioeconomic risk: (1) median family income; (2) percent of population 25 years of age or older with less education than a high school diploma; (3) percent of workers in unskilled and semiskilled occupations; (4) percent of children (under the age of 18) living in married-couple, family households; and (5) percent of housing units with more than one person per room.

Ranked census tracts were divided into quartiles (SES 1-4), where lower SES quartiles have a higher concentration of families with socioeconomic risk factors. CPS kindergartners within SES 1 neighborhoods made up 33.2% of the 2022-23 class, while 28.0% were SES 2, 22.5% were SES 3, and 16.2% were SES 4.

KRA-R Performance by Preschool Experience

Among CPS students with Documented CPS Preschool experience, 29.1% were demonstrating readiness on the overall assessment compared to 26.6% of students with all other experiences (i.e., students for whom Documented CPS Preschool enrollment was not available). In addition, 46.6% of students who had CPS preschool were On Track as opposed to 34.8% of those with all other experiences.
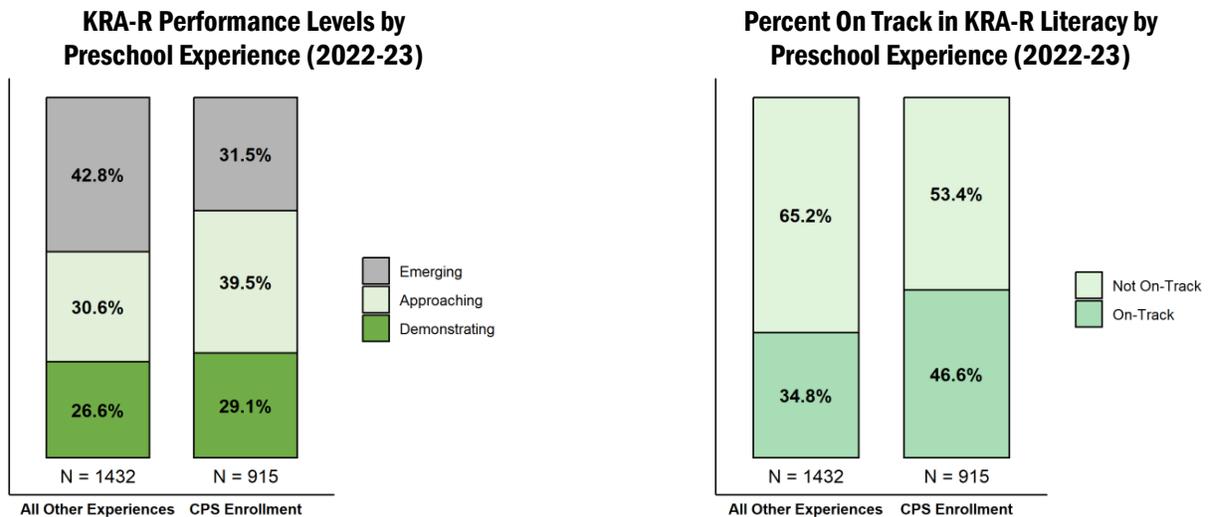
Note. All Other Experiences refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

KRA-R Performance by SES

SES quartiles allow for the examination of KRA-R performance in the context of social factors. Students who live in lower SES neighborhoods tend to score lower than their higher SES counterparts. In 2022-23, 53.6% of SES 4 students were demonstrating readiness compared to 32.3% of SES 3, 23.4% of SES 2, and 15.3%

of SES 1 students. Likewise, 67.8% of SES 4, 43.3% of SES 3, 35.8% of SES 2, and 25.9% of SES 1 were On Track.

KRA-R Performance Levels by SES (2022-23)

50.9%	44.0%	29.8%	15.3%
33.8%	32.6%	37.8%	31.1%
15.3%	23.4%	32.3%	53.6%
N = 776	N = 653	N = 526	N = 379
SES 1	SES 2	SES 3	SES 4

Legend: Emerging, Approaching, Demonstrating

Percent On Track in KRA-R Literacy by SES (2022-23)

74.1%	64.2%	56.7%	32.2%
25.9%	35.8%	43.3%	67.8%
N = 776	N = 653	N = 526	N = 379
SES 1	SES 2	SES 3	SES 4

Legend: Not On-Track, On-Track
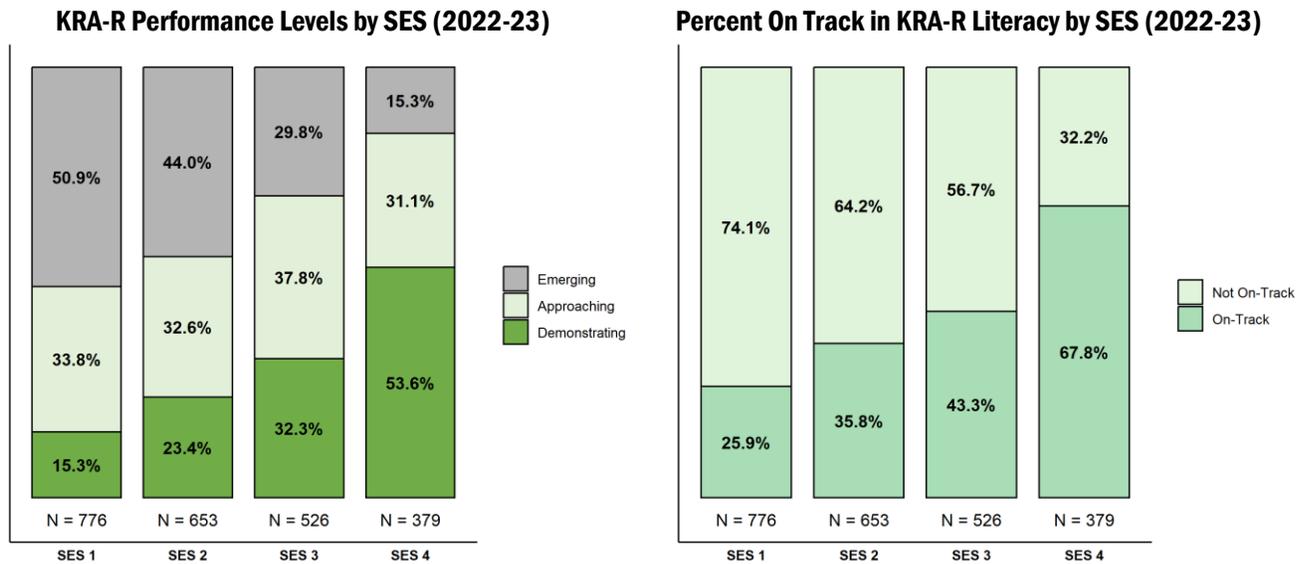
Socioeconomic status was further examined in the context of various demographics and conditions to better understand its impact in conjunction with other relevant factors that affect Kindergarten Readiness. In particular, KRA-R performance and SES were examined in relation to student race and documented CPS Preschool experience. See the full report for more details.

Summary and Next Steps

1. Supporting the whole child to be "ready" in kindergarten and beyond

   The percentage of children on track for language and literacy remains low and below pre-pandemic levels. Given the current state of kindergarten readiness, in part due to the pandemic, educators should embrace and implement a holistic approach for preparing children for kindergarten. Supporting the "whole child" must target physical, social, and emotional health, and a focus on language and cognitive skills. Because learning for many preschool-age children was interrupted during COVID-19, students may need additional academic and social-emotional support to address identified needs as they enter school.

2. Risks that Impact Literacy and Learning are Offset by Benefits of Preschool

   Data show that children with the highest risks (SES 1 and 2) also have the highest literacy and learning challenges when they enter kindergarten. This is due to systemic barriers related to poverty, housing, and other factors. Fortunately, these risks are offset by preschool enrollment, which is a resiliency factor for children, and especially for those who are most vulnerable. Local and national data show that children who enroll in preschool are more likely to have higher literacy and learning scores compared to children of the same income levels who do not have documented preschool

enrollment. Research documents that equitable access to quality preschool is an important way to decrease educational disparities (National Association for the Education of Young Children, 2019).

3. **Preschool for Two Years Provides Additional Benefits to Students**

Data support that children who attended 2 years of preschool had better outcomes compared to children with 1 year of documented CPS preschool or those with all other experiences. These results demonstrate the positive effects of consistent preschool enrollment. Partnerships between schools, providers and parents are critical to ensuring enrollment and attendance of 3 and 4 years olds such that the benefits of preschool are fully optimized.

4. **Community Planning, Policy and Data Play a Key Role in Improving Outcomes:**

Planning and policy are important to supporting preschool for 3 and 4 year olds and comprehensive early learning experiences for children. Community and advocacy for preschool is important, particularly in areas where there are accessibility and quality gaps, especially for children and families with limited resources. Data inform stakeholders where to best target resources and planning efforts. As rates of COVID-19 infection continue to decline in communities, there may be greater potential to address learning gaps and inequities. Supporting parents, caregivers and families is important to success. Key messages to parents and caregivers will need to include the importance of brain development during the critical preschool years and stress how quality education and learning experiences relate to positive long-term outcomes for children.

Overview

This report summarizes Kindergarten Readiness Assessment Revised (KRA-R) results for Cincinnati Public Schools (CPS) Kindergarten students during the 2022-23 academic year. The KRA-R was administered to CPS kindergartners for the first time in 2021-22. The new assessment is intended to provide a more comprehensive view of a student's Kindergarten readiness and is designed to provide a snapshot of Kindergarten readiness levels, thereby making it possible to confidently determine if entering students have the skills and behaviors needed to succeed in Kindergarten.

CPS administered the Kindergarten Readiness Assessment – Literacy (KRA-L) to assess the literacy skills and academic readiness of children enrolled in Kindergarten from 2004-05 to 2012-13. The KRA-L, a state screener, was replaced in 2014-15 with the Kindergarten Readiness Assessment (KRA), which assesses academic readiness and literacy skills along with skills of Social Foundations (socio-emotional development), Mathematics, Physical Well-Being, and Motor Development. In 2020-21, the KRA-R was scheduled to be administered to CPS Kindergarteners. However, due to the COVID-19 pandemic, the district administered the Acadience Reading K-6 (formerly DIBELS Next) assessment in its stead and the administration of the KRA-R was postponed until 2021-22.

It is important to note that 2020-21 and 2021-22 were exceptional academic years due to the COVID-19 pandemic. For the Cincinnati Public Schools (CPS) district, traditional (in-person) instruction ended in March of the 2019-20 school year and did not resume 5-day per week in-person or virtual learning until March of the 2020-21 school year. Access to instructional materials, technological devices, and the internet was limited for many children and students of all ages during these transitional periods and continues to present barriers during intermittent school closures as the pandemic persists. Staff shortages and school absences due to illness in preschool classrooms through high school have continued to interrupt the learning process for students. For many students, parents, staff, and members of the broader community, life and routines were disrupted and changed and, in many cases, permanently. Thus, COVID-19 is an important consideration for how educators and stakeholders support overall early literacy, school readiness, and long-term academic success for students attending CPS schools today and in the future.

The Kindergarten Readiness Assessment Revised (KRA-R) is administered by trained teachers using observation, selected response questions, and performance tasks that require an action or verbal response. Students are assessed beginning as early as July 1 and ending no later than the twentieth day of instruction during the academic year. The data included in this report were provided by CPS and have been analyzed by INNOVATIONS in Community Research and Program Evaluation of Cincinnati Children's Hospital Medical Center in partnership with CPS. Data are presented in this report from within the contexts of demographic and early learning considerations, school, and home zip code.

The KRA-R uses a combination of direct assessment, observation, and performance task methods. The results are based on scaled scores and should be interpreted as how students perform in relation to same-

age peers. For the purpose of this report, results are entirely focused on the KRA-R composite score and the Language and Literacy subtest. The composite scaled score (hereafter referred to in this report as the overall score) on the KRA-R is determined by a student's set of skills and behaviors across four domains of learning (Language and Literacy, Social Foundations, Mathematics, and Physical Well-Being and Motor Development). The KRA-R measures readiness through performance levels based on overall scaled scores. Each performance level has been designed to guide decisions about further assessment and instruction for both individuals and groups of students. In order for a student to "demonstrate readiness" on the overall assessment – the highest performance level – he/she must demonstrate these foundational skills and behaviors for all four domains; otherwise, a student will achieve an overall score of approaching or emerging readiness. Students with scores that approach readiness or are considered emerging have not yet demonstrated the foundational skills and behaviors that prepare them for curriculum based on Kindergarten standards set in the State of Ohio. An overview of the performance levels can be seen below:

- **Emerging Readiness (Scores of 0-257):** Scores that fall within "Emerging Readiness" indicate that a student displays minimal foundational skills and behaviors that prepare him/her for curriculum based on Kindergarten standards in the State of Ohio.
- **Approaching Readiness (Scores of 258-269):** Scores that fall within "Approaching Readiness" indicate that a student exhibits some of the foundational skills and behaviors that prepare him/her for curriculum based on Kindergarten standards in the State of Ohio.
- **Demonstrating Readiness (Scores of 270+):** Scores that fall within "Demonstrating Readiness" indicate that a student exhibits the foundational skills and behaviors that prepare him/her for curriculum based on Kindergarten standards in the State of Ohio.

The Ohio Department of Education has retained the language of "on track" status for the KRA-R Language and Literacy subtest. A scaled score of 263 and above on the subtest indicates that a student is on track for proficiency in reading by third grade.

Summary of 2022-23 KRA-R Results

A total of 2,347 CPS Kindergarten students completed the KRA-R in the 2022-23 academic year. Assessments were not included in the analyses if they were incomplete, or tests taken by students repeating Kindergarten. In the event that a student had completed more than one assessment in the same year, the higher score was selected.

The analysis of KRA-R performance provides a unique opportunity to understand the relationship among demographic, contextual/school factors, preschool history experiences, and Kindergarten Readiness status. Although data were available for subtests Social Foundations, Mathematics, and Physical Well-Being and Motor Development, only results on the overall assessment and Language and Literacy subtest have been included in this report.

In 2022-23, students achieved a mean overall scaled score of 261.4 (SD = 15.6), with 27.6% demonstrating readiness. On the Language and Literacy subtest, students had an average score of 259.8 (SD = 18.4) and 39.4% were on track for Kindergarten (Figure 1). Since 2021-22, the percentage of students demonstrating readiness decreased by 2.5 percentage points and the percentage of students on track decreased by 2.9 percentage points (Appendix, Table I).

Figure 1. KRA-R Results for 2022-23 CPS Kindergarteners
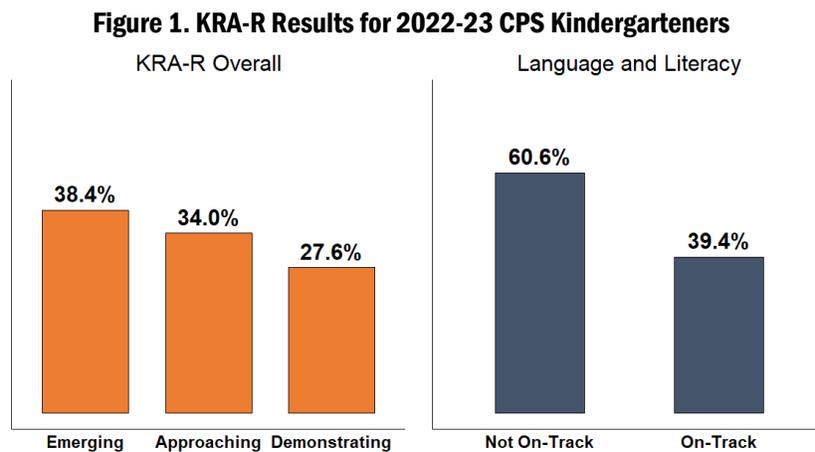
Demographics

The demographic characteristics of the 2022-23 cohort are shown in Figure 2. The distribution of gender was 50.6% male and 49.4% female. The racial breakdown for the cohort was 58.2% Black/African-American, 23.1% White, 8.9% Hispanic, 8.4% Multi-Racial, and 1.4% other or unknown races. Among students that completed assessments, 39.0% had Documented CPS Preschool experience prior to Kindergarten. Preschool dosage data indicated that 23.9% of the cohort had 1 year of CPS preschool and 15.1% had two years.

Figure 2. Demographics of Cincinnati Public KRA-R Cohort in 2022-23
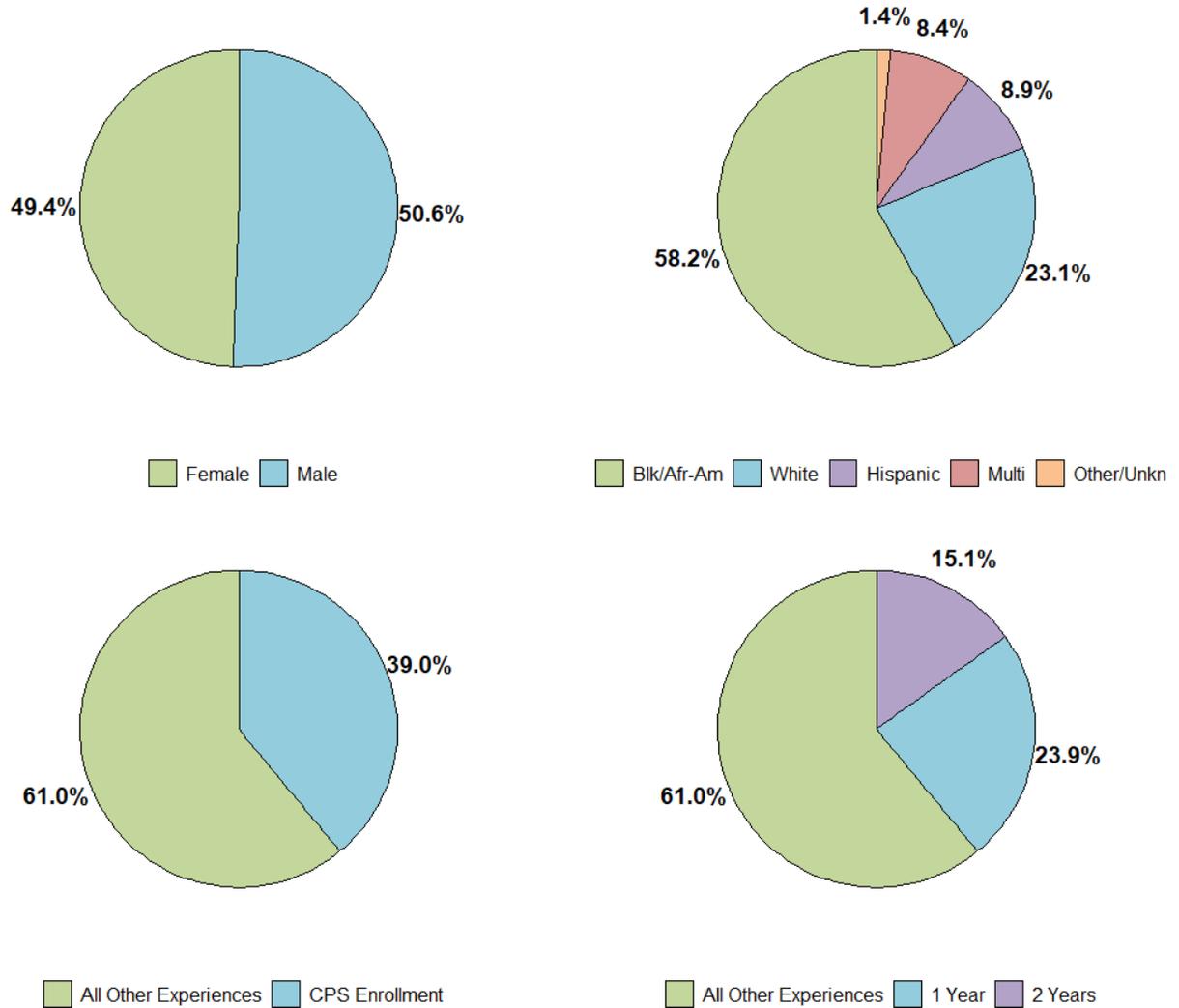
Note. All Other Experiences refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

Socioeconomic Status Overview

The socioeconomic status (SES) quartile metric is used as a proxy for income and social factors. SES characteristics for census tracts were estimated using methodology detailed in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). Cincinnati and surrounding metropolitan area census tract statistics were extracted from the 2021 American Community Survey (ACS) - 5 Year Estimates. Five SES indicators were used to rank census tracts by relative socioeconomic risk:

1. Median family income
2. Percent of population 25 years of age or older with less education than a high school diploma
3. Percent of workers in unskilled and semiskilled occupations
4. Percent of children (under the age of 18) living in married-couple, family households
5. Percent of housing units with more than one person per room

The five SES indicators were condensed into a single component score using principal component analysis. Census tracts were ranked using the component score and divided into quartiles (SES 1-4), where lower SES tracts have a higher concentration of families with socioeconomic risk factors. Student residential addresses were geocoded using ESRI's ArcGIS Pro software to determine their census tract, which was then used to determine which socioeconomic status (SES) quartile the individual students fall within.

The overall distribution of SES for the 2022-23 KRA-R cohort can be seen in Figure 3. An additional breakdown by race is illustrated in Figure 4. It is important to distinguish that the SES does not necessarily represent the individual socioeconomic characteristics of a student, but rather the average characteristics of families living within their neighborhood of residence.

Figure 3. SES Distribution in 2022-23

	SES 1	SES 2	SES 3	SES 4
Percent	33.2%	28.0%	22.5%	16.2%
N	N = 776	N = 653	N = 526	N = 379
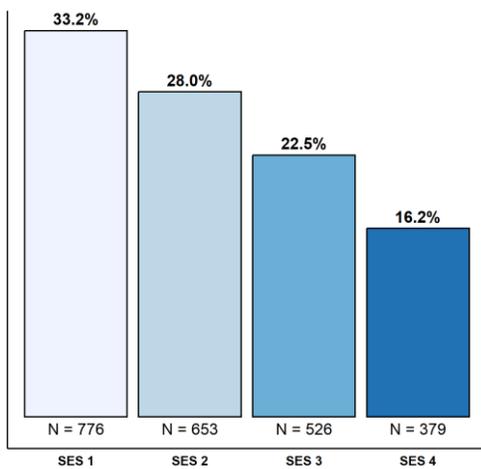
Figure 4. SES Distribution by Race in 2022-23
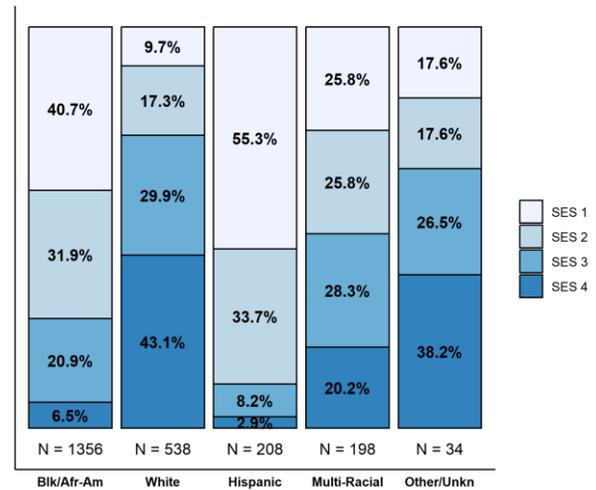
KRA-R Performance by Preschool Experience

Outcomes for the KRA-R were compared between students who attended a CPS preschool prior to Kindergarten and those with all other experiences. All other experiences refer to students for whom documented CPS Preschool enrollment was not available. These students may have attended preschool outside of the CPS district or did not attend preschool before enrolling in Kindergarten. In 2022-23, CPS preschool students demonstrated readiness at a frequency of 29.1% compared to 26.6% of students with all other experiences (Figure 5). Additionally, kindergarteners with documented CPS Preschool experience were on track for literacy at a rate of 46.6% compared to 34.8% of students with all other experiences (Figure 6).[1]

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[1] Mean scaled scores for CPS preschool students were significantly greater than those with all other experiences for Overall KRA-R, $F(1,2345)$ = 5.01, p = 0.025, η^2 = 0.002, and Language and Literacy, $F(1,2345)$ = 14.59, p < .001, η^2 = 0.006.

Figure 5. KRA-R Performance Levels by Preschool Experience (2022-23)
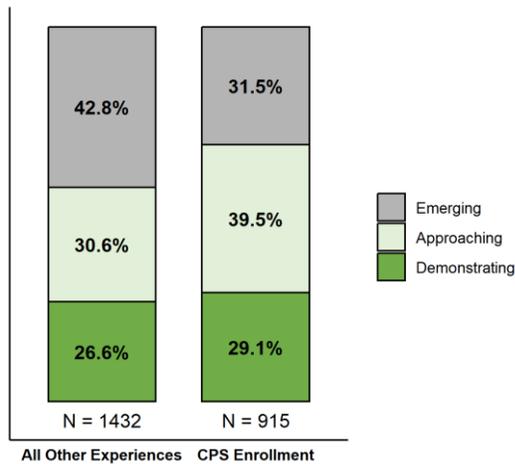
Figure 6. Percent On Track in KRA-R Literacy by Preschool Experience (2022-23)
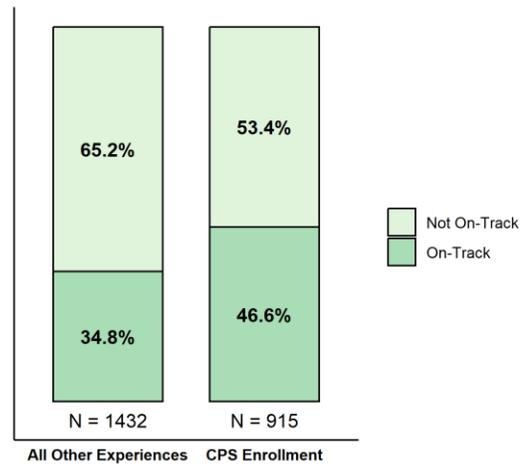
The impact of CPS preschool dosage is presented in Figures 7-8. Overall, (32.2%) of students with 2 years of CPS preschool, compared to (27.1%) of students with 1 year of CPS preschool, and (26.6%) of students with all other experiences (Figure 7).[2] Comparisons for Language and Literacy subtest results indicated that (48.9%) of 2-year students, (45.1%) of 1-year students, and (34.8%) of those with all other experiences were On Track for literacy (Figure 8).[3] Additional KRA-R statistics by preschool experience and dosage are available in Appendix, Table IV.

Figure 7. KRA-R Performance Levels by Preschool Dosage (2022-23)

Figure 8. Percent On Track in KRA-R Literacy by Preschool Dosage (2022-23)

Note. All Other Experiences refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

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[2] Marginally significant difference in mean Overall KRA-R scaled scores by preschool dosage: $F_{(2,2344)} = 2.91$, $p = 0.055$, $\eta^2 = 0.002$ [Post hoc comparisons using Tukey HSD test: 2 Years vs. All Other Experiences ($p = 0.600$), 2 Years vs. 1 Year ($p = 0.640$), 1 Year vs. All Other Experiences ($p = 0.046$)].

[3] Statistically significant difference in mean Language and Literacy scaled scores by preschool dosage: $F_{(2,2344)} = 7.38$, $p < .001$, $\eta^2 = 0.006$ [Post hoc comparisons using Tukey HSD test: 2 Years vs. All Other Experiences ($p = 0.007$), 2 Years vs. 1 Year ($p = 0.905$), 1 Year vs. All Other Experiences ($p = 0.046$)].

KRA Performance by SES

SES data allow us to examine KRA-R performance through the lens of neighborhood risk factors. As is evident in Figures 9 and 10, students who live in neighborhoods with higher concentrations of SES risk factors (SES 1 and 2) scored lower than their higher SES (3 and 4) counterparts.[4] This presents direct academic consequences for households that contain these risk factors as well as possible consequences for other families within the same community that are indirectly impacted by concentrated poverty. Additional KRA-R statistics by SES are available in Appendix, Table V.

Figure 9. KRA-R Performance Levels by SES (2022-23)
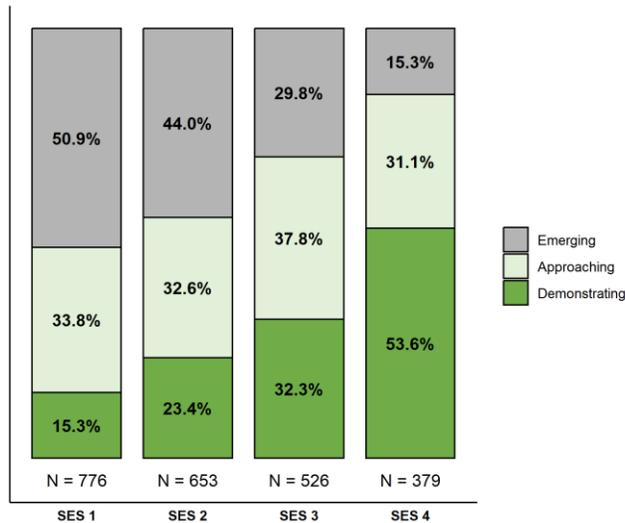
Figure 10. Percent On Track in KRA-R Literacy by SES (2022-23)
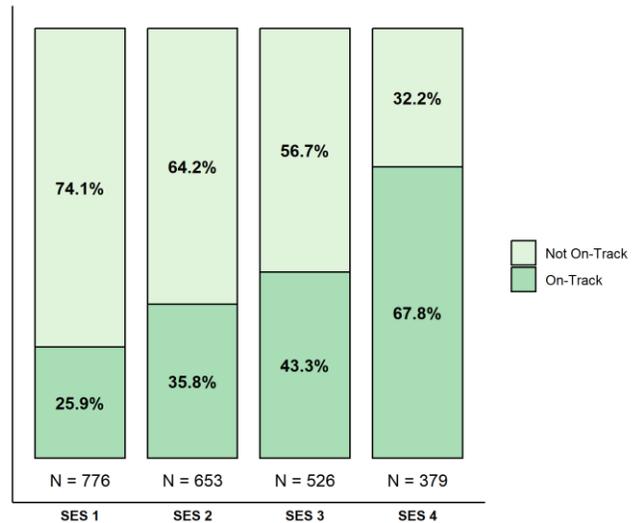
SES Analysis

Socioeconomic status was examined in the context of various demographics and conditions to better understand its impact in conjunction with other relevant factors that affect Kindergarten Readiness. In particular, KRA-R performance and SES were examined in relation to student race and documented CPS Preschool experience.[5]

KRA-R Performance by SES and Preschool Experience

Figures 11-12 show that performance differed within SES between students with documented CPS Preschool experience and students with All Other Experiences.[6] This relationship is most pronounced among low SES

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[4] Statistically significant difference in mean Overall KRA-R scaled scores by SES, $F(3,2330) = 80.72$, $p < .001$, $\eta^2 = 0.094$, and in mean Language and Literacy scaled scores by SES: $F(3,2330) = 96.01$, $p < .001$, $\eta^2 = 0.110$ [Post hoc comparisons using Tukey HSD test were all statistically significant for Overall and Language and Literacy mean scores ($p < .001$)].

[5] Three-way full factorial ANOVA model (SES, preschool experience, race) for overall scaled scores: $F(38, 2295) = 13.99$, $p < .001$, $\eta^2 = .188$; and Language and Literacy scaled scores: $F(38, 2295) = 18.45$, $p < .001$, $\eta^2 = .234$.

[6] Non-significant SES by preschool experience interactions for mean Overall KRA-R scaled score, $F(3, 2295) = 0.82$, $p = .485$, and Language and Literacy scaled scores: $F(3, 2295) = .29$, $p = .848$

students (SES 1-2). For example, SES 1 students with CPS Preschool experience demonstrated readiness at a rate of 22.2% and were On Track for literacy at a rate of 37.6%. In comparison, 9.6% of SES 1 students with All Other Experiences demonstrated readiness and 16.2% were On Track. Mean scores by preschool experience and SES can be viewed in the Appendix, Table VI.

Figure 11. KRA-R Performance Levels by Preschool Experience and SES (2022-23)
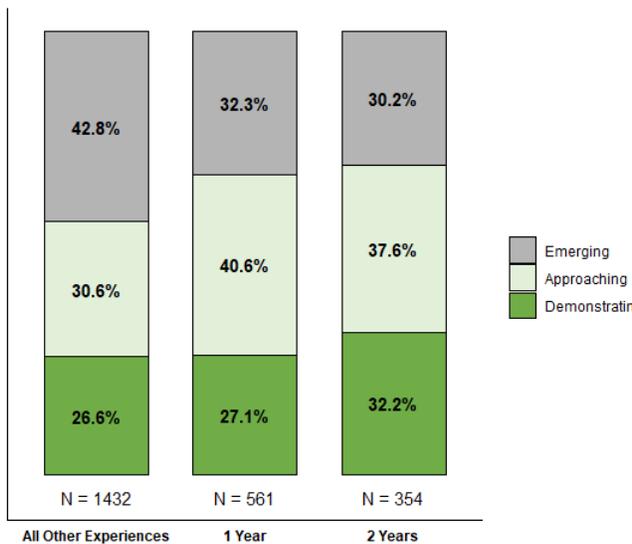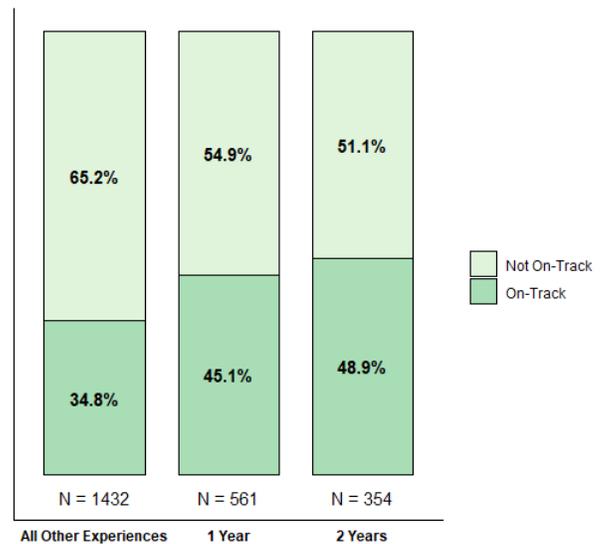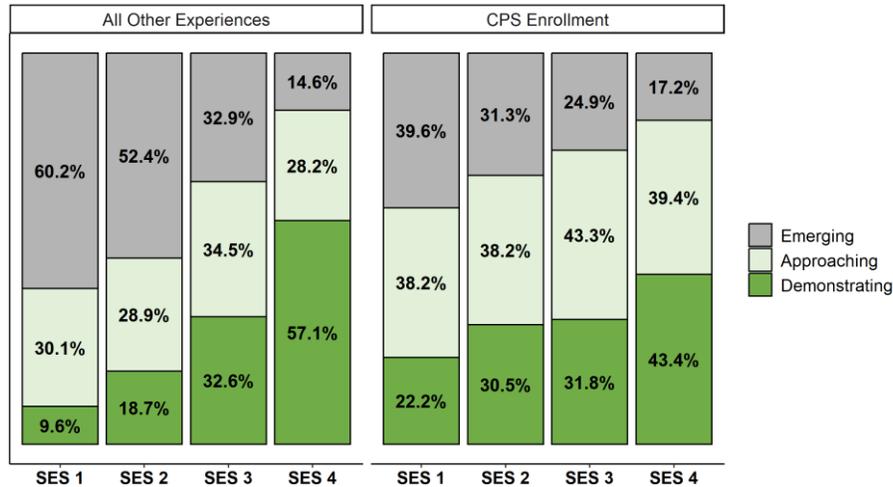

Figure 12. Percent On Track in KRA-R Literacy by Preschool Experience and SES (2022-23)
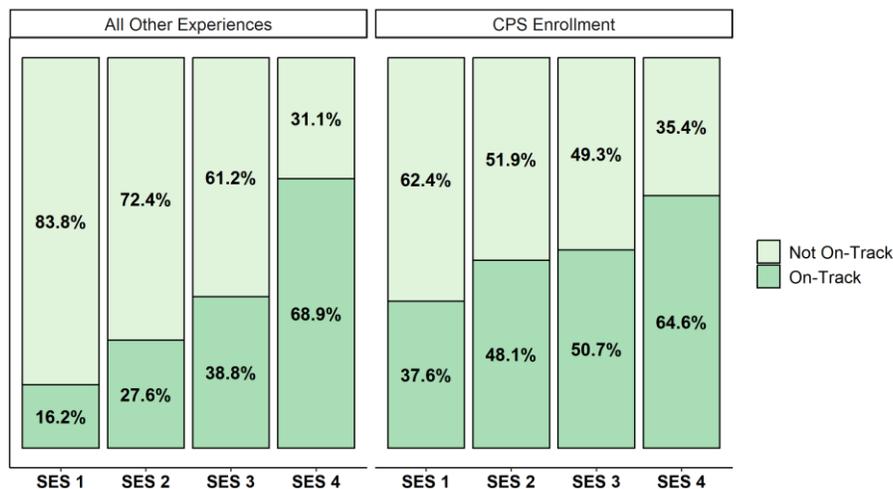
Note. All Other Experiences refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

KRA-R Performance by SES and Race

KRA-R performance varied by SES within each race, though to varying degrees (Figures 13-14).[7] Whereas some groups show distinct benefits from living in high SES neighborhoods (e.g., White students), KRA-R outcomes for other groups differ to a lesser extent between SES quartiles (e.g., Black/African-American and Hispanic students). The figures below omit students with a race of Other/Unknown due to small sample

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[7] Statistically significant SES by race interactions for mean Overall KRA-R scaled scores, $F(12, 2295) = 2.25$, $p = .008$, $\eta_p^2 = .012$, and mean Language and Literacy scaled scores: $F(12, 2295) = 2.56$, $p = .002$, $\eta_p^2 = .013$

sizes. Additionally, comparisons with a sample size under 10 were also excluded from the results below. For more information, including average scores by race and SES please review Appendix, Table VII.

Figure 13. KRA-R Performance Levels by Race and SES (2022-23)
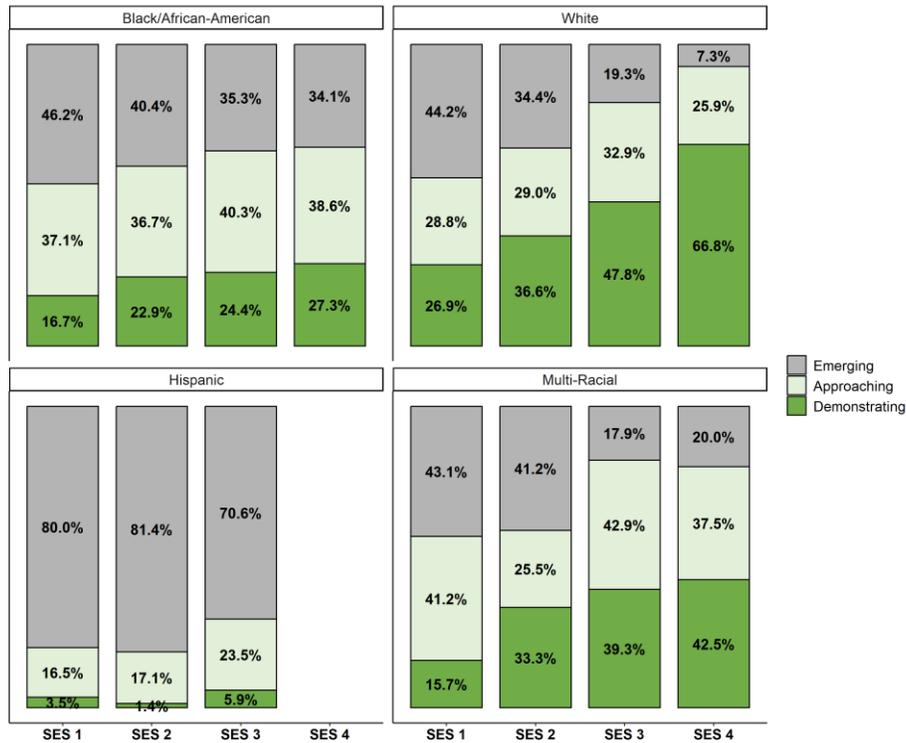
Figure 14. Percent On Track in KRA-R Literacy by Race and SES (2022-23)
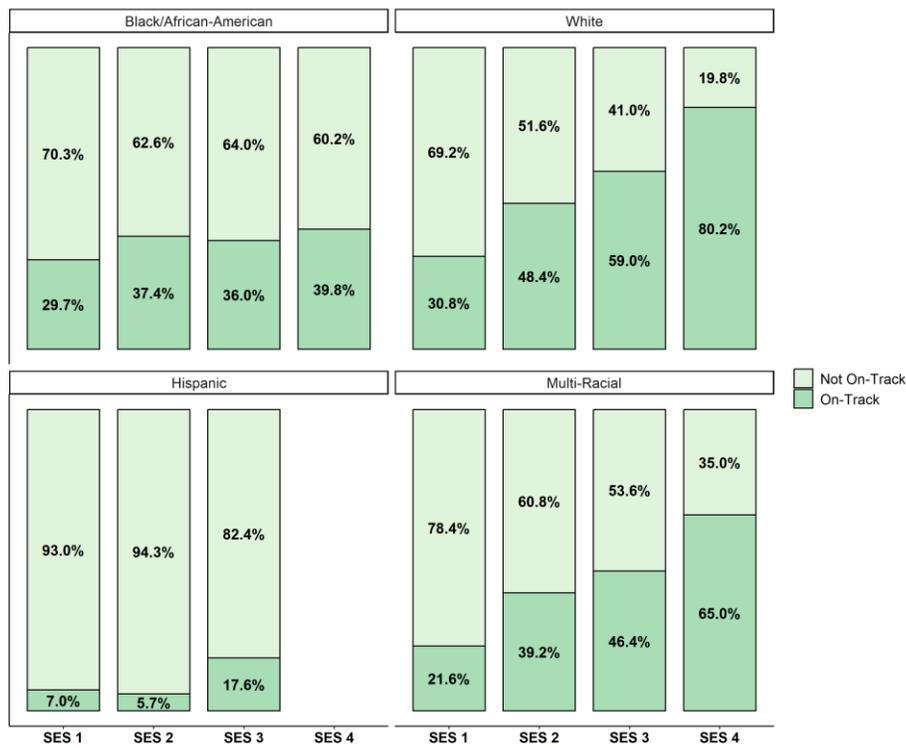
Note. Results omitted if *N*<10.

KRA-R Performance by SES, Race, and Preschool Experience

Given the relationship that race, preschool experience, and SES share with KRA-R performance, an analysis factoring all combinations was conducted to determine how they interact. Figures 15-16 present KRA-R outcomes by SES within the context of both race and documented CPS Preschool experience.[8] Low SES students (SES 1-2) that attend CPS Preschool before kindergarten tend to perform better than low SES students with All Other Experiences. Furthermore, CPS Preschool experience shows variable degrees of impact depending on the combination of race and SES. For example, SES 1 Black/African-American students demonstrated readiness at a rate of 22.7% for those with CPS Preschool experience and 10.6% for those with All Other Experiences. In contrast, SES 1 White students demonstrated readiness at a rate of 36.4% for those with documented CPS Preschool experience and 20.0% for those with All Other Experiences.

Note that data were excluded if the sample was below 10 students, or if the student had a race of Other/Unknown. For more information regarding this analysis, review Appendix, Table VIII.

Figure 15. KRA-R Performance Levels by SES, Race, and Preschool Experience (2022-23)
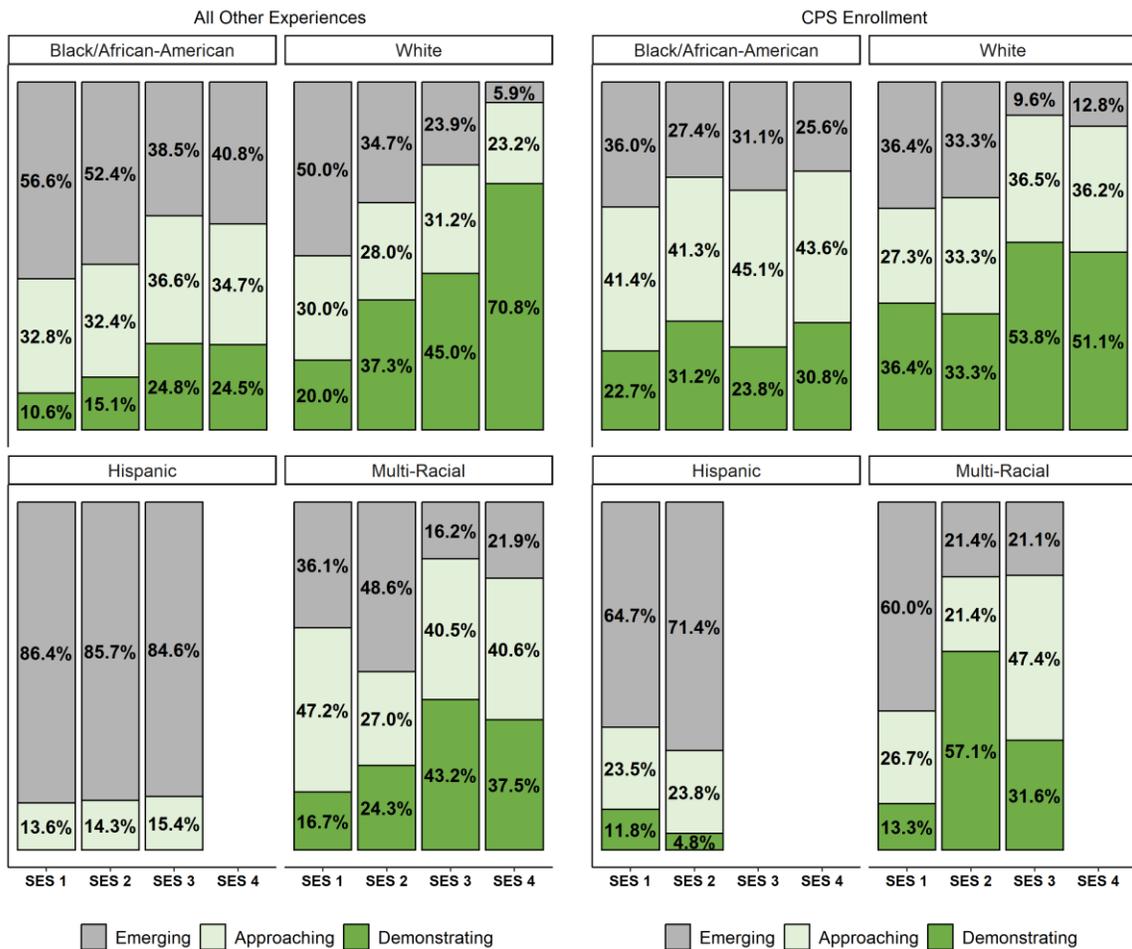
Note. Results excluded if N<10. Mean scores and samples sizes can be viewed in Appendix, Table VIII.

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[8] Marginally significant three-way interaction between SES, race, and preschool experience for mean Overall KRA-R scaled scores, $F(12, 2295) = 1.65$, $p = .054$, $\eta_p^2 = .011$, and a statistically significant interaction for mean Language and Literacy scaled scores: $F(12, 2295) = 1.88$, $p = .021$, $\eta_p^2 = .012$.

Figure 16. Percent On Track in KRA-R Literacy by SES, Race, and Preschool Experience (2022-23)
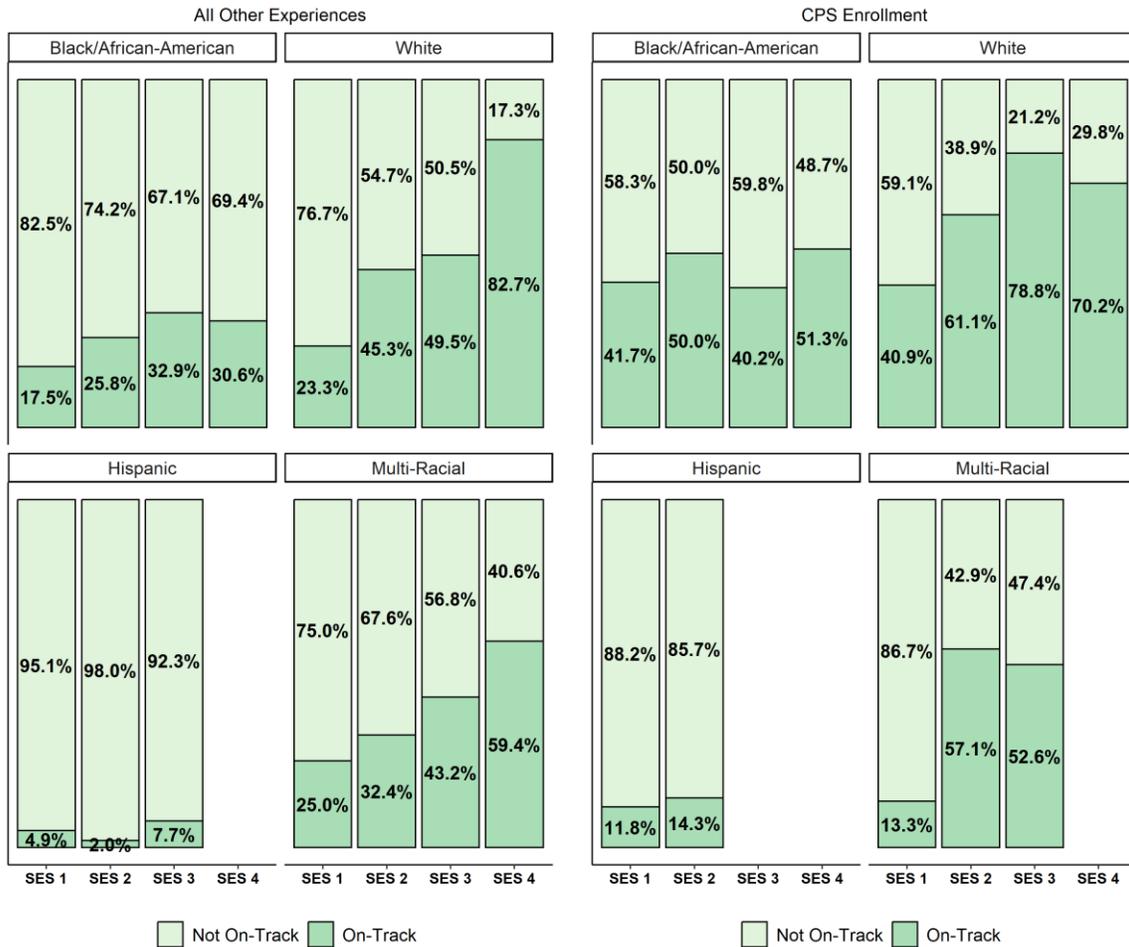
Note. Results excluded if N<10. Mean scores and samples sizes can be viewed in Appendix, Table VIII.

Additional KRA-R Findings

KRA-R Performance by School

KRA-R data were also analyzed to highlight performance trends across Kindergarten buildings. Overall KRA-R and Language and Literacy scores, as well as on track and performance levels (Appendix, Table IX) were variable across schools. Factors that may help to explain the differences could include: (1) feeder preschool data; (2) support services and partnerships within the schools; (3) parent support and involvement; and (4) family and neighborhood demographics.

KRA-R Performance by Zip Code

Neighborhood factors, social supports, and access to resources may also predict student achievement. Therefore, analyses were conducted to summarize students' performance on the KRA-R according to their residential zip codes (Appendix, Table X).Zip codes with small sample sizes (N<10) were not included.

Distribution of SES by School

Further context is provided in Appendix, Table XI which displays the proportion of the attending students within each of the SES quartiles.

Summary and Next Steps

KRA Report Summary

This report summarizes KRA-R results for CPS Kindergarten students during the 2022-23 academic year. The analysis yields several important findings about academic readiness in Kindergarten students and its relationship to preschool experience and demographic factors.

- **District KRA-R Performance:** During 2022-23, a total of 38.4% of students showed emerging readiness (scores of 257 and below), while 34.0% were approaching readiness (scores of 258-269), and 27.6% were demonstrating readiness (scores of 270 and above; see Figure 1). On the Language and Literacy subtest, 39.4% of students were considered "on track" for literacy in third grade (scores of 263 and above).

- **KRA-R Performance by Preschool Experience:** A total of 29.1% of students who had Documented CPS Preschool were demonstrating readiness as opposed to 26.6% of those with All Other Experiences (i.e., students for whom Documented CPS Preschool enrollment was not available; see Figure 5). Additionally, 46.6% of students with Documented CPS Preschool were on track compared to 34.8% of those with All Other Experiences (see Figure 6). An analysis of preschool dosage showed that 32.2% of 2022-23 Kindergarten students with two years of Documented CPS Preschool were on track compared to 27.1% of those with one year (see Figure 7), and 48.9% of two-year students were on track compared to 45.1% of one-year students (see Figure 8).

- **KRA-R Performance by Socioeconomic Status:** Lower SES students tend to score lower than their higher SES counterparts. In 2022-23, 53.6% of SES 4 students were demonstrating readiness compared to 32.3% of SES 3, 23.4% of SES 2, and 15.3% of SES 1 students (see Figure 9). Likewise, 67.8% of SES 4, 43.3% of SES 3, 35.8% of SES 2, and 25.9% of SES 1 were on track (see Figure 10).

- **KRA-R Performance by SES and Preschool Experience:** KRA-R performance differed within SES between students with documented CPS Preschool experience and students with All Other Experiences. This relationship is most pronounced among low SES students (SES 1-2). Among students with documented CPS Preschool experience, 43.4% of SES 4, 31.8% of SES 3, 30.5% of SES 2, and 22.2% of SES 1 demonstrated readiness (Figure 11). Among students with All Other Experiences, 57.1% of SES 4, 32.6% of SES 3, 18.7% of SES 2, and 9.6% of SES 1 demonstrated readiness. Additional data are available in Figure 12 and Appendix, Table VI.

- **KRA-R Performance by SES and Race:** KRA-R outcomes vary by race (accounting for SES) to differing degrees (see Figures 13-14). Whereas some groups show distinct benefits from living in high SES

neighborhoods (e.g., White students), KRA-R outcomes for other groups differ to a lesser extent between SES quartiles (e.g., Black/African-American and Hispanic students). Additional data are available in Appendix, Table VII.

- **KRA-R Performance by SES, Race, and Preschool Experience:** An analysis was conducted factoring in all combinations of SES, race, and preschool experience to determine how they interact. The analysis indicated that those with Documented CPS Preschool experience outperformed those without most notably in SES 1-2. This effect was identified across races, but to differing magnitudes. See Figures 15-16 and Appendix, Table VIII for further details.

- **Additional KRA-R Findings:** School and Zip Code data indicated that there was variability across schools and neighborhoods with respect to performance on overall readiness and Language and Literacy. Performance trends may vary by preschool experience, socioeconomic, and other demographic and neighborhood factors (see Appendix, Tables IX-X). Appendix, Table XI provides further context by displaying the proportion of the attending students within each SES.

Next Steps

1. **Supporting the whole child to be "ready" in kindergarten and beyond**

   The percentage of children on track for language and literacy remains low and below pre-pandemic levels. Given the current state of kindergarten readiness, in part due to the pandemic, educators should embrace and implement a holistic approach for preparing children for kindergarten. Supporting the "whole child" must target physical, social, and emotional health, and a focus on language and cognitive skills. Because learning for many preschool-age children was interrupted during COVID-19, students may need additional academic and social-emotional support to address identified needs as they enter school.

2. **Risks that Impact Literacy and Learning are Offset by Benefits of Preschool**

   Data show that children with the highest risks (SES 1 and 2) also have the highest literacy and learning challenges when they enter kindergarten. This is due to systemic barriers related to poverty, housing, and other factors. Fortunately, these risks are offset by preschool enrollment, which is a resiliency factor for children, and especially for those who are most vulnerable. Local and national data show that children who enroll in preschool are more likely to have higher literacy and learning scores compared to children of the same income levels who do not have documented preschool enrollment. Research documents that equitable access to quality preschool is an important way to decrease educational disparities (National Association for the Education of Young Children, 2019).

3. **Preschool for Two Years Provides Additional Benefits to Students**

   Data support that children who attended 2 years of preschool had better outcomes compared to children with 1 year of documented CPS preschool or those with all other experiences. These results

demonstrate the positive effects of consistent preschool enrollment. Partnerships between schools, providers and parents are critical to ensuring enrollment and attendance of 3 and 4 years olds such that the benefits of preschool are fully optimized.

4. **Community Planning, Policy and Data Play a Key Role in Improving Outcomes:**

Planning and policy are important to supporting preschool for 3 and 4 year olds and comprehensive early learning experiences for children. Community and advocacy for preschool is important, particularly in areas where there are accessibility and quality gaps, especially for children and families with limited resources. Data inform stakeholders where to best target resources and planning efforts. As rates of COVID-19 infection continue to decline in communities, there may be greater potential to address learning gaps and inequities. Supporting parents, caregivers and families is important to success. Key messages to parents and caregivers will need to include the importance of brain development during the critical preschool years and stress how quality education and learning experiences relate to positive long-term outcomes for children.

References

Espinosa, L.M. (2002). High-quality preschool: Why we need it and what it looks like. National Institute for Early Education Research. http://nieer.org/resources/policybriefs/1.pdf.

Maloney, M., & Auffrey, C. (2013). The social areas of Cincinnati: An analysis of social needs (5th ed.). School of Planning, University of Cincinnati & UC Institute for Community Partnerships. http://www.socialareasofcincinnati.org/files/FifthEdition/SASBook.pdf.

National Association for the Education of Young Children. (2019). Advancing Equity in Early Childhood Education: A Position Statement of the National Association for the Education of Young Children. https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/advancingequitypositionstatement.pdf

U.S. Department of Education. Office for Civil Rights. (2021). Education in a pandemic: The disparate impacts of COVID-19 on America's students. Office for Civil Rights. https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.pdf.

Appendix

Table I. KRA-R Scores for Cincinnati Public Schools by Year

School Year	Students Assessed	KRA-R Overall					Language and Literacy		
		Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	2,347	261.4	15.6	38.4%	34.0%	27.6%	259.8	18.4	39.4%
2021-22	2,577	262.8	14.5	34.4%	35.5%	30.1%	261.3	17.3	42.3%

Table II. KRA-R Scores for Cincinnati Public Schools by Gender

School Year	Gender	Students Assessed	KRA-R Overall					Language and Literacy		
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	Female	1,160	263.4	14.9	32.1%	36.2%	31.7%	261.4	17.9	42.1%
	Male	1,187	259.5	16.1	44.6%	31.9%	23.5%	258.3	18.8	36.7%
2021-22	Female	1,285	264.6	14.1	29.0%	36.0%	35.0%	262.4	17.1	44.8%
	Male	1,292	261.0	14.6	39.8%	35.1%	25.2%	260.2	17.5	39.8%

Table III. KRA-R Scores for Cincinnati Public Schools by Race/Ethnicity

School Year	Race/Ethnicity	Students Assessed	KRA-R Overall					Language and Literacy		
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	Black/African-American	1,366	259.5	14.2	41.3%	37.8%	20.9%	257.8	16.2	34.1%
	White	541	270.0	15.6	19.0%	29.2%	51.8%	270.7	18.2	63.4%
	Hispanic	208	249.6	12.3	77.9%	18.3%	3.8%	243.1	16.1	8.7%
	Multi-Racial	198	264.1	15.5	30.8%	36.9%	32.3%	261.9	18.0	41.9%
	Other/Unknown	34	261.0	18.9	32.4%	41.2%	26.5%	258.8	17.8	41.2%
2021-22	Black/African-American	1,487	260.8	13.0	37.0%	39.5%	23.5%	259.5	15.4	37.5%
	White	587	270.6	15.0	18.1%	28.1%	53.8%	270.5	17.3	65.8%
	Hispanic	233	253.1	12.5	67.4%	24.0%	8.6%	246.8	16.0	11.2%
	Multi-Racial	240	264.4	14.2	28.8%	39.2%	32.1%	262.9	16.8	44.2%
	Other/Unknown	30	269.0	14.4	16.7%	40.0%	43.3%	268.1	20.2	46.7%

Table IV. KRA-R Scores for Cincinnati Public Schools by CPS Preschool Experience

School Year	CPS Preschool Experience	Students Assessed	KRA-R Overall					Language and Literacy		
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	All Other Experiences*	1,432	260.9	15.4	42.8%	30.6%	26.6%	258.7	18.5	34.8%
	CPS Preschool Enrollment	915	262.3	16.0	31.5%	39.5%	29.1%	261.6	18.1	46.6%
	Dosage: 1 Year	561	262.7	13.7	32.3%	40.6%	27.1%	261.4	15.9	45.1%
	Dosage: 2 Years	354	261.7	19.1	30.2%	37.6%	32.2%	261.9	21.2	48.9%
2021-22	All Other Experiences*	1,592	262.5	14.1	36.5%	34.4%	29.1%	260.5	17.1	40.3%
	CPS Preschool Enrollment	985	263.3	15.0	31.1%	37.3%	31.7%	262.6	17.7	45.5%
	1 Year of Enrollment	291	263.8	14.8	31.3%	37.5%	31.3%	262.5	17.2	42.3%
	2 Years of Enrollment	694	263.1	15.0	31.0%	37.2%	31.8%	262.6	17.9	46.8%

*Students with "All Other Experiences" refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

Table V. KRA-R Scores for Cincinnati Public Schools by Socioeconomic Status

School Year	Socioeconomic Status (SES)	Students Assessed	KRA-R Overall					Language and Literacy		
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	SES 1	776	256.7	14.4	50.9%	33.8%	15.3%	254.0	17.0	25.9%
	SES 2	653	259.8	15.4	44.0%	32.6%	23.4%	257.7	18.0	35.8%
	SES 3	526	263.9	15.6	29.8%	37.8%	32.3%	262.6	17.3	43.3%
	SES 4	379	270.6	14.1	15.3%	31.1%	53.6%	271.7	17.2	67.8%
2021-22	SES 1	850	258.4	12.8	43.9%	38.7%	17.4%	256.2	15.7	28.1%
	SES 2	706	261.4	14.1	37.8%	34.4%	27.8%	259.9	16.9	39.7%
	SES 3	656	265.9	14.0	26.4%	36.4%	37.2%	264.6	16.5	51.7%
	SES 4	357	270.1	15.8	20.2%	28.0%	51.8%	270.0	18.7	63.9%

Note. Socioeconomic status (SES) characteristics of CPS student families were estimated via the Census Tract they resided in using a methodology illustrated in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). An SES component score was calculated from five SES indicators from the American Community Survey (ACS) - 5 Year Estimates for 2021. Student residential addresses were geocoded to determine their census tract, which was then used to determine which SES quartile the individual students fall into. SES quartiles operate as a proxy for income and other social factors. They rank from 1 to 4, where lower ranked neighborhoods have a larger concentration of families with socioeconomic risk factors.

Table VI: KRA-R Scores by SES and CPS Preschool Experience

School Year	CPS Preschool Experience	SES	Students Assessed	KRA-R Overall					Language and Literacy		
				Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	All Other Experiences*	SES 1	425	254.4	12.8	60.2%	30.1%	9.6%	250.5	16.0	16.2%
		SES 2	391	258.3	14.3	52.4%	28.9%	18.7%	255.5	16.9	27.6%
		SES 3	325	263.6	15.5	32.9%	34.5%	32.6%	261.2	17.3	38.8%
		SES 4	280	271.2	14.3	14.6%	28.2%	57.1%	272.6	17.2	68.9%
	CPS Preschool Enrollment	SES 1	351	259.5	15.7	39.6%	38.2%	22.2%	258.2	17.4	37.6%
		SES 2	262	262.1	16.7	31.3%	38.2%	30.5%	260.9	19.0	48.1%
		SES 3	201	264.3	15.9	24.9%	43.3%	31.8%	264.9	17.1	50.7%
		SES 4	99	268.9	13.5	17.2%	39.4%	43.4%	269.0	17.0	64.6%
	Dosage: 1 Year	SES 1	220	259.8	12.9	42.7%	38.6%	18.6%	257.7	14.5	34.1%
		SES 2	165	263.0	14.4	30.9%	38.2%	30.9%	261.6	17.1	47.3%
		SES 3	118	265.4	13.7	22.0%	46.6%	31.4%	265.7	15.5	52.5%
		SES 4	56	267.4	12.5	17.9%	42.9%	39.3%	266.2	14.5	64.3%
	Dosage: 2 Years	SES 1	131	259.0	19.5	34.4%	37.4%	28.2%	258.9	21.3	43.5%
		SES 2	97	260.5	19.9	32.0%	38.1%	29.9%	259.7	21.8	49.5%
		SES 3	83	262.9	18.5	28.9%	38.6%	32.5%	263.8	19.3	48.2%
		SES 4	43	270.7	14.6	16.3%	34.9%	48.8%	272.6	19.4	65.1%
2021-22	All Other Experiences*	SES 1	514	257.9	12.2	46.7%	37.9%	15.4%	254.9	15.0	24.3%
		SES 2	422	259.9	13.2	43.6%	34.4%	22.0%	257.9	15.9	34.6%
		SES 3	400	265.0	13.8	28.7%	36.0%	35.3%	262.9	16.2	48.0%
		SES 4	249	272.0	14.5	16.1%	24.5%	59.4%	272.2	17.7	70.7%
	CPS Preschool Enrollment	SES 1	336	259.4	13.5	39.6%	39.9%	20.5%	258.1	16.4	33.9%
		SES 2	284	263.6	15.0	29.2%	34.5%	36.3%	262.8	17.9	47.2%
		SES 3	256	267.2	14.3	22.7%	37.1%	40.2%	267.2	16.7	57.4%
		SES 4	108	265.6	17.8	29.6%	36.1%	34.3%	264.9	20.0	48.1%
	Dosage: 1 Year	SES 1	105	259.4	13.3	41.9%	39.0%	19.0%	257.7	16.2	25.7%
		SES 2	95	265.7	14.8	24.2%	34.7%	41.1%	264.2	17.3	49.5%
		SES 3	68	265.9	15.7	29.4%	35.3%	35.3%	264.7	17.3	50.0%
		SES 4	23	269.2	15.0	17.4%	47.8%	34.8%	270.7	16.8	65.2%
	Dosage: 2 Years	SES 1	231	259.4	13.7	38.5%	40.3%	21.2%	258.2	16.5	37.7%
		SES 2	189	262.5	15.1	31.7%	34.4%	33.9%	262.1	18.2	46.0%
		SES 3	188	267.6	13.7	20.2%	37.8%	42.0%	268.1	16.4	60.1%
		SES 4	85	264.6	18.4	32.9%	32.9%	34.1%	263.3	20.6	43.5%

Note. Results omitted if N<10. Socioeconomic status (SES) characteristics of CPS student families were estimated via the Census Tract they resided in using a methodology illustrated in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). An SES component score was calculated from five SES indicators from the American Community Survey (ACS) - 5 Year Estimates for 2021. Student residential addresses were geocoded to determine their census tract, which was then used to determine which SES quartile the individual students fall into. SES quartiles operate as a proxy for income and other social factors. They rank from 1 to 4, where lower ranked neighborhoods have a larger concentration of families with socioeconomic risk factors.

*Students with "All Other Experiences" refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

Table VII: KRA-R Scores by SES and Race/Ethnicity

School Year	Race/Ethnicity	SES	Students Assessed	KRA-R Overall					Language and Literacy		
				Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	Black/African-American	SES 1	552	257.9	14.1	46.2%	37.1%	16.7%	256.0	15.9	29.7%
		SES 2	433	260.0	14.6	40.4%	36.7%	22.9%	258.3	17.1	37.4%
		SES 3	283	260.8	14.5	35.3%	40.3%	24.4%	259.2	15.6	36.0%
		SES 4	88	262.9	11.8	34.1%	38.6%	27.3%	261.8	14.5	39.8%
	White	SES 1	52	260.0	17.6	44.2%	28.8%	26.9%	258.3	20.2	30.8%
		SES 2	93	265.9	16.9	34.4%	29.0%	36.6%	265.2	17.5	48.4%
		SES 3	161	270.1	15.6	19.3%	32.9%	47.8%	270.3	17.6	59.0%
		SES 4	232	273.8	13.2	7.3%	25.9%	66.8%	276.1	16.4	80.2%
	Hispanic	SES 1	115	248.6	12.0	80.0%	16.5%	3.5%	241.5	15.8	7.0%
		SES 2	70	249.4	11.7	81.4%	17.1%	1.4%	242.9	14.7	5.7%
		SES 3	17	251.0	12.9	70.6%	23.5%	5.9%	245.9	18.5	17.6%
		SES 4	6	-	-	-	-	-	-	-	-
	Multi-Racial	SES 1	51	258.5	13.8	43.1%	41.2%	15.7%	255.4	16.7	21.6%
		SES 2	51	261.4	16.2	41.2%	25.5%	33.3%	258.8	19.3	39.2%
		SES 3	56	267.6	13.2	17.9%	42.9%	39.3%	264.6	13.7	46.4%
		SES 4	40	269.8	16.8	20.0%	37.5%	42.5%	270.2	19.8	65.0%
	Other/Unknown	SES 1	6	-	-	-	-	-	-	-	-
		SES 2	6	-	-	-	-	-	-	-	-
		SES 3	9	-	-	-	-	-	-	-	-
		SES 4	13	268.7	14.8	15.4%	46.2%	38.5%	266.2	13.2	53.8%
2021-22	Black/African-American	SES 1	562	259.3	12.4	39.5%	41.1%	19.4%	257.9	14.5	31.7%
		SES 2	480	261.0	13.7	37.3%	37.3%	25.4%	259.8	16.1	39.6%
		SES 3	333	263.2	12.3	31.2%	40.2%	28.5%	262.3	15.0	45.3%
		SES 4	107	260.2	14.2	40.2%	39.3%	20.6%	257.7	16.7	34.6%
	White	SES 1	64	261.8	13.9	35.9%	39.1%	25.0%	259.8	15.7	37.5%
		SES 2	107	266.2	13.8	29.9%	27.1%	43.0%	266.0	16.8	51.4%
		SES 3	211	271.4	14.6	14.2%	32.2%	53.6%	270.6	16.4	68.2%
		SES 4	205	275.0	14.7	10.2%	21.0%	68.8%	276.1	16.9	79.5%
	Hispanic	SES 1	146	253.2	12.1	66.4%	26.7%	6.8%	247.2	16.1	10.3%
		SES 2	55	251.1	12.6	74.5%	16.4%	9.1%	243.9	15.2	7.3%
		SES 3	23	251.3	11.7	73.9%	21.7%	4.3%	244.3	15.0	8.7%
		SES 4	8	-	-	-	-	-	-	-	-

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Table VII (continued): KRA-R Scores by SES and Race/Ethnicity

School Year	Race/Ethnicity	SES	Students Assessed	KRA-R Overall					Language and Literacy		
				Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2021-22	Multi-Racial	SES 1	74	259.1	13.7	41.9%	41.9%	16.2%	257.6	17.5	27.0%
		SES 2	62	265.2	13.2	22.6%	41.9%	35.5%	263.8	15.4	48.4%
		SES 3	74	266.0	13.7	25.7%	33.8%	40.5%	264.5	16.2	50.0%
		SES 4	28	271.8	14.3	17.9%	39.3%	42.9%	270.1	16.6	60.7%
	Other/Unknown	SES 1	4	-	-	-	-	-	-	-	-
		SES 2	2	-	-	-	-	-	-	-	-
		SES 3	15	269.1	16.4	20.0%	46.7%	33.3%	262.9	19.8	33.3%
		SES 4	9	-	-	-	-	-	-	-	-

Note. Results omitted if N<10. Socioeconomic status (SES) characteristics of CPS student families were estimated via the Census Tract they resided in using a methodology illustrated in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). An SES component score was calculated from five SES indicators from the American Community Survey (ACS) - 5 Year Estimates for 2021. Student residential addresses were geocoded to determine their census tract, which was then used to determine which SES quartile the individual students fall into. SES quartiles operate as a proxy for income and other social factors. They rank from 1 to 4, where lower ranked neighborhoods have a larger concentration of families with socioeconomic risk factors.

Table VIII. KRA-R Scores by Race, SES, and CPS Preschool Experience

School Year	Race	SES	Preschool Experience	Students Assessed	KRA-R Overall					Language and Literacy		
					Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2022-23	Black/African-American	SES 1	All Other Experiences*	274	255.6	11.5	56.6%	32.8%	10.6%	252.4	13.4	17.5%
			CPS Preschool	278	260.1	15.9	36.0%	41.4%	22.7%	259.6	17.3	41.7%
		SES 2	All Other Experiences*	225	257.2	12.5	52.4%	32.4%	15.1%	255.1	15.5	25.8%
			CPS Preschool	208	262.9	16.1	27.4%	41.3%	31.2%	261.7	18.1	50.0%
		SES 3	All Other Experiences*	161	260.5	14.9	38.5%	36.6%	24.8%	257.6	16.0	32.9%
			CPS Preschool	122	261.2	13.9	31.1%	45.1%	23.8%	261.4	14.7	40.2%
		SES 4	All Other Experiences*	49	261.2	10.1	40.8%	34.7%	24.5%	260.5	14.2	30.6%
			CPS Preschool	39	265.0	13.5	25.6%	43.6%	30.8%	263.5	14.9	51.3%
	White	SES 1	All Other Experiences*	30	258.6	15.9	50.0%	30.0%	20.0%	257.3	20.9	23.3%
			CPS Preschool	22	261.9	19.8	36.4%	27.3%	36.4%	259.8	19.7	40.9%
		SES 2	All Other Experiences*	75	266.3	17.5	34.7%	28.0%	37.3%	265.0	18.3	45.3%
			CPS Preschool	18	264.4	14.3	33.3%	33.3%	33.3%	266.2	14.2	61.1%
		SES 3	All Other Experiences*	109	268.9	14.9	23.9%	31.2%	45.0%	268.1	16.9	49.5%
			CPS Preschool	52	272.4	16.9	9.6%	36.5%	53.8%	275.1	18.4	78.8%
		SES 4	All Other Experiences*	185	274.7	13.5	5.9%	23.2%	70.8%	277.2	15.8	82.7%
			CPS Preschool	47	270.5	11.7	12.8%	36.2%	51.1%	271.8	18.0	70.2%
	Hispanic	SES 1	All Other Experiences*	81	246.5	11.8	86.4%	13.6%	0.0%	239.0	15.7	4.9%
			CPS Preschool	34	253.8	11	64.7%	23.5%	11.8%	247.4	14.6	11.8%
		SES 2	All Other Experiences*	49	249.1	9.1	85.7%	14.3%	0.0%	241.9	12.4	2.0%
			CPS Preschool	21	250.1	16.5	71.4%	23.8%	4.8%	245.1	19.2	14.3%
		SES 3	All Other Experiences*	13	247.2	12	84.6%	15.4%	0.0%	240.4	16.8	7.7%
			CPS Preschool	4	-	-	-	-	-	-	-	-
		SES 4	All Other Experiences*	6	-	-	-	-	-	-	-	-
			CPS Preschool	0	-	-	-	-	-	-	-	-
	Multi-Racial	SES 1	All Other Experiences*	36	259.2	14.9	36.1%	47.2%	16.7%	256.4	18.1	25.0%
			CPS Preschool	15	256.9	11.1	60.0%	26.7%	13.3%	252.8	12.6	13.3%
		SES 2	All Other Experiences*	37	260	13.1	48.6%	27.0%	24.3%	255.6	15.3	32.4%
			CPS Preschool	14	265.1	22.8	21.4%	21.4%	57.1%	267.2	26.1	57.1%
		SES 3	All Other Experiences*	37	267.9	13.1	16.2%	40.5%	43.2%	264.4	14.1	43.2%
			CPS Preschool	19	267.1	13.8	21.1%	47.4%	31.6%	264.9	13.4	52.6%
		SES 4	All Other Experiences*	32	268.5	16.4	21.9%	40.6%	37.5%	268.6	20.2	59.4%
			CPS Preschool	-	-	-	-	-	-	-	-	-

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Table VIII (continued). KRA-R Scores by Race, SES, and Preschool Experience

School Year	Race	SES	Preschool Experience	Students Assessed	KRA-R Overall					Language and Literacy		
					Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track
2021-22	Black/African-American	SES 1	All Other Experiences*	313	259.3	11.6	39.3%	42.5%	18.2%	257.5	13.6	28.8%
			CPS Preschool	249	259.3	13.3	39.8%	39.4%	20.9%	258.4	15.5	35.3%
		SES 2	All Other Experiences*	271	259.7	12.5	43.2%	37.3%	19.6%	258.1	14.5	34.3%
			CPS Preschool	209	262.7	15.0	29.7%	37.3%	33.0%	262.1	17.8	46.4%
		SES 3	All Other Experiences*	182	262.0	11.6	35.2%	37.9%	26.9%	260.2	13.8	39.0%
			CPS Preschool	151	264.5	12.9	26.5%	43.0%	30.5%	265.0	16.0	53.0%
		SES 4	All Other Experiences*	53	259.0	14.6	43.4%	35.8%	20.8%	255.8	16.9	32.1%
			CPS Preschool	54	261.3	13.9	37.0%	42.6%	20.4%	259.5	16.3	37.0%
	White	SES 1	All Other Experiences*	42	262.0	10.9	35.7%	45.2%	19.0%	259.4	13.3	35.7%
			CPS Preschool	22	261.3	18.6	36.4%	27.3%	36.4%	260.5	19.9	40.9%
		SES 2	All Other Experiences*	67	264.5	13.5	34.3%	26.9%	38.8%	263.8	16.9	46.3%
			CPS Preschool	40	269.0	14.0	22.5%	27.5%	50.0%	269.7	16.3	60.0%
		SES 3	All Other Experiences*	147	270.7	13.7	13.6%	34.7%	51.7%	269.7	15.8	67.3%
			CPS Preschool	64	272.9	16.5	15.6%	26.6%	57.8%	272.5	17.6	70.3%
		SES 4	All Other Experiences*	159	276.9	11.9	6.3%	17.6%	76.1%	278.3	14.4	85.5%
			CPS Preschool	46	268.3	20.6	23.9%	32.6%	43.5%	268.7	22.5	58.7%
	Hispanic	SES 1	All Other Experiences*	104	250.7	11.2	77.9%	17.3%	4.8%	244.1	14.6	5.8%
			CPS Preschool	42	259.4	12.1	38.1%	50.0%	11.9%	254.8	17.0	21.4%
		SES 2	All Other Experiences*	40	249.1	11.8	80.0%	17.5%	2.5%	241.2	14.2	2.5%
			CPS Preschool	15	256.7	13.5	60.0%	13.3%	26.7%	251.1	15.7	20.0%
		SES 3	All Other Experiences*	16	248.1	10.8	87.5%	12.5%	0.0%	240.2	14.4	0.0%
			CPS Preschool	7	-	-	-	-	-	-	-	-
		SES 4	All Other Experiences*	6	-	-	-	-	-	-	-	-
			CPS Preschool	2	-	-	-	-	-	-	-	-
	Multi-Racial	SES 1	All Other Experiences*	52	259.7	13.5	40.4%	44.2%	15.4%	257.3	15.8	23.1%
			CPS Preschool	22	257.6	14.5	45.5%	36.4%	18.2%	258.4	21.4	36.4%
		SES 2	All Other Experiences*	42	264.3	12.2	26.2%	45.2%	28.6%	263.2	13.2	47.6%
			CPS Preschool	20	267.3	15.3	15.0%	35.0%	50.0%	265.2	19.5	50.0%
		SES 3	All Other Experiences*	44	263.7	14.5	34.1%	36.4%	29.5%	260.7	16.0	43.2%
			CPS Preschool	30	269.5	11.7	13.3%	30.0%	56.7%	270.0	15.1	60.0%
		SES 4	All Other Experiences*	23	269.6	13.1	21.7%	43.5%	34.8%	267.8	15.7	60.9%
			CPS Preschool	5	-	-	-	-	-	-	-	-

Note. Results omitted if N<10. Socioeconomic status (SES) characteristics of CPS student families were estimated via the Census Tract they resided in using a methodology illustrated in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). An SES component score was calculated from five SES indicators from the American Community Survey (ACS) - 5 Year Estimates for 2021. Student residential addresses were geocoded to determine their census tract, which was then used to determine which SES quartile the individual students fall into. SES quartiles operate as a proxy for income and other social factors. They rank from 1 to 4, where lower ranked neighborhoods have a larger concentration of families with socioeconomic risk factors.

*Students with "All Other Experiences" refer to students enrolled in Kindergarten within the CPS district, but with no Documented CPS Preschool experience. These students may or may not have attended preschool outside of the CPS district before enrolling in Kindergarten.

Table IX. KRA-R Scores by CPS Kindergarten

School Name	School Year	Students Assessed	KRA-R Overall					Language and Literacy			Percent Documented CPS Preschool
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track	
Academy for Multilingual Immersion Studies	2022-23	64	254.2	14.6	57.8%	31.2%	10.9%	252.0	15.9	18.8%	34.4%
	2021-22	58	255.0	10.5	65.5%	25.9%	8.6%	254.9	13.3	20.7%	25.9%
Academy Of World Languages Elementary School	2022-23	58	256.2	13.5	53.4%	34.5%	12.1%	254.2	14.9	22.4%	36.2%
	2021-22	54	259.0	12.2	50.0%	27.8%	22.2%	258.7	16.1	40.7%	38.9%
Bond Hill Academy Elementary School	2022-23	28	255.1	10.5	60.7%	28.6%	10.7%	253.4	14.8	25.0%	39.3%
	2021-22	33	258.1	10.7	45.5%	36.4%	18.2%	257.8	14.4	30.3%	36.4%
Carson Elementary School	2022-23	68	248.6	14.5	75.0%	23.5%	1.5%	242.6	18.3	7.4%	38.2%
	2021-22	85	251.0	12.5	69.4%	25.9%	4.7%	244.7	14.8	4.7%	32.9%
Carthage Elementary	2022-23	77	261.1	13.9	46.8%	32.5%	20.8%	257.5	15.8	36.4%	44.2%
	2021-22	-	-	-	-	-	-	-	-	-	-
Chase Elementary School	2022-23	30	260.0	10.6	33.3%	53.3%	13.3%	258.9	11.7	20.0%	40.0%
	2021-22	34	268.2	10.3	14.7%	41.2%	44.1%	267.8	11.6	61.8%	55.9%
Cheviot Elementary School	2022-23	68	260.2	10.7	41.2%	38.2%	20.6%	256.7	13.9	29.4%	33.8%
	2021-22	87	264.8	11.8	24.1%	47.1%	28.7%	264.6	16.0	52.9%	25.3%
Cincinnati Digital Academy	2022-23	9	-	-	-	-	-	-	-	-	-
	2021-22	36	262.3	13.8	44.4%	30.6%	25.0%	258.8	16.3	30.6%	36.1%
Clifton Area Neighborhood School	2022-23	50	265.0	15.9	30.0%	36.0%	34.0%	268.5	20.4	54.0%	26.0%
	2021-22	41	272.0	15.9	17.1%	31.7%	51.2%	273.7	17.3	61.0%	19.5%
College Hill Fundamental Academy	2022-23	59	266.9	13.2	25.4%	30.5%	44.1%	264.5	16.4	50.8%	32.2%
	2021-22	52	270.8	11.6	9.6%	25.0%	65.4%	272.0	14.8	80.8%	32.7%
Covedale Elementary School	2022-23	44	259.2	11.5	50.0%	27.3%	22.7%	259.3	13.2	38.6%	27.3%
	2021-22	56	259.1	13.5	42.9%	39.3%	17.9%	258.4	15.2	30.4%	21.4%
Dater Montessori Elementary School	2022-23	94	271.5	16.7	17.0%	30.9%	52.1%	271.4	17.9	67.0%	58.5%
	2021-22	92	268.9	14.2	20.7%	31.5%	47.8%	269.5	16.3	65.2%	68.5%
Ethel M. Taylor Academy	2022-23	32	256.4	23.9	34.4%	43.8%	21.9%	252.5	24.1	25.0%	37.5%
	2021-22	30	257.1	13.4	46.7%	40.0%	13.3%	254.0	13.0	16.7%	33.3%
Evanston Academy Elementary School	2022-23	28	255.6	15.5	53.6%	28.6%	17.9%	252.7	17.6	28.6%	42.9%
	2021-22	34	260.6	16.9	41.2%	26.5%	32.4%	254.5	18.4	32.4%	41.2%
Fairview-Clifton German Language School	2022-23	101	267.2	14.9	25.7%	33.7%	40.6%	269.0	16.2	60.4%	37.6%
	2021-22	87	267.8	14.9	20.7%	41.4%	37.9%	267.6	15.8	58.6%	49.4%
Frederick Douglass Elementary School	2022-23	27	259.0	15.0	40.7%	37.0%	22.2%	257.1	16.7	37.0%	37.0%
	2021-22	33	254.5	14.6	42.4%	45.5%	12.1%	250.5	15.3	12.1%	48.5%
George Hays-Jennie Porter Elementary	2022-23	23	248.9	20.9	60.9%	34.8%	4.3%	245.3	21.9	21.7%	43.5%
	2021-22	34	261.0	17.0	35.3%	41.2%	23.5%	256.8	19.1	32.4%	38.2%

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Table IX (continued). KRA-R Scores by CPS Kindergarten

School Name	School Year	Students Assessed	KRA-R Overall					Language and Literacy			Percent Documented CPS Preschool
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track	
Hyde Park School	2022-23	85	271.1	12.4	12.9%	30.6%	56.5%	275.2	15.3	74.1%	2.4%
	2021-22	67	270.8	11.6	14.9%	29.9%	55.2%	271.9	14.2	76.1%	11.9%
James N. Gamble Montessori Elementary School	2022-23	58	265.4	13.0	17.2%	53.4%	29.3%	264.7	13.4	43.1%	72.4%
	2021-22	61	262.2	15.4	39.3%	29.5%	31.1%	261.3	17.2	41.0%	65.6%
John P Parker Elementary School	2022-23	40	260.7	11.1	37.5%	47.5%	15.0%	257.6	12.9	30.0%	60.0%
	2021-22	47	262.5	12.9	40.4%	29.8%	29.8%	261.9	16.6	40.4%	59.6%
Kilgour Elementary School	2022-23	94	275.0	10.7	2.1%	26.6%	71.3%	276.9	13.7	85.1%	2.1%
	2021-22	79	279.2	10.4	0.0%	15.2%	84.8%	282.2	12.2	94.9%	5.1%
Leap Academy at North Fairmont	2022-23	40	259.5	9.9	40.0%	40.0%	20.0%	256.6	13.7	40.0%	82.5%
	2021-22	61	253.9	10.7	59.0%	32.8%	8.2%	251.0	15.2	21.3%	55.7%
Midway Elementary School	2022-23	63	261.9	12.7	33.3%	42.9%	23.8%	258.6	13.3	34.9%	38.1%
	2021-22	82	261.4	15.1	35.4%	39.0%	25.6%	262.0	16.1	50.0%	31.7%
Mt. Airy Elementary School	2022-23	67	259.2	11.2	49.3%	31.3%	19.4%	255.9	13.7	25.4%	31.3%
	2021-22	72	260.5	10.4	33.3%	54.2%	12.5%	258.4	13.1	23.6%	29.2%
Mt. Washington Elementary School	2022-23	46	262.3	8.5	26.1%	56.5%	17.4%	260.0	11.1	39.1%	30.4%
	2021-22	39	260.9	14.1	33.3%	48.7%	17.9%	258.2	16.1	41.0%	33.3%
North Avondale Montessori Elementary School	2022-23	75	265.9	14.2	29.3%	34.7%	36.0%	265.3	16.1	44.0%	54.7%
	2021-22	95	266.5	13.8	26.3%	31.6%	42.1%	267.2	16.4	56.8%	42.1%
Oyler School	2022-23	33	257.3	11.3	45.5%	42.4%	12.1%	253.8	18.1	21.2%	33.3%
	2021-22	42	263.0	8.9	26.2%	50.0%	23.8%	262.0	13.9	33.3%	31.0%
Parker Woods Montessori	2022-23	77	267.1	14.0	27.3%	42.9%	29.9%	265.8	14.9	53.2%	42.9%
	2021-22	74	264.6	13.4	27.0%	44.6%	28.4%	264.1	14.0	52.7%	39.2%
Pleasant Hill Elementary School	2022-23	40	258.0	12.4	47.5%	35.0%	17.5%	252.8	13.9	17.5%	37.5%
	2021-22	69	263.5	8.7	24.6%	52.2%	23.2%	260.7	10.3	30.4%	30.4%
Pleasant Ridge Montessori School	2022-23	76	267.6	14.1	19.7%	28.9%	51.3%	268.1	18.2	61.8%	28.9%
	2021-22	116	270.8	16.8	23.3%	25.9%	50.9%	269.4	17.4	60.3%	30.2%
Rees E. Price Elementary School	2022-23	40	241.4	15.1	97.5%	2.5%	0.0%	230.9	15.0	0.0%	37.5%
	2021-22	66	252.4	11.0	71.2%	25.8%	3.0%	244.1	12.4	3.0%	36.4%
Riverview East Academy	2022-23	21	250.0	10.5	66.7%	28.6%	4.8%	249.4	9.2	4.8%	38.1%
	2021-22	11	251.9	9.6	72.7%	18.2%	9.1%	249.0	10.3	9.1%	18.2%
Roberts Academy: A Paideia Learning Community	2022-23	71	250.3	11.5	78.9%	19.7%	1.4%	247.2	14.4	11.3%	26.8%
	2021-22	78	255.9	12.0	55.1%	34.6%	10.3%	248.3	15.1	12.8%	35.9%
Rockdale Academy Elementary School	2022-23	30	254.0	17.0	66.7%	13.3%	20.0%	253.6	17.5	20.0%	60.0%
	2021-22	30	264.6	8.2	13.3%	66.7%	20.0%	261.5	9.5	33.3%	63.3%

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Table IX (continued). KRA-R Scores by CPS Kindergarten

School Name	School Year	Students Assessed	KRA-R Overall					Language and Literacy			Percent Documented CPS Preschool
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On Track	
Roll Hill School	2022-23	45	254.9	12.5	57.8%	28.9%	13.3%	250.7	12.8	15.6%	28.9%
	2021-22	55	254.8	10.4	56.4%	38.2%	5.5%	254.1	12.3	16.4%	16.4%
Roselawn Condon Elementary School	2022-23	35	258.1	13.7	34.3%	48.6%	17.1%	256.0	14.9	31.4%	54.3%
	2021-22	50	254.6	14.2	52.0%	30.0%	18.0%	252.5	16.0	26.0%	58.0%
Rothenberg Preparatory Academy	2022-23	35	253.8	16.2	51.4%	37.1%	11.4%	250.8	16.9	22.9%	51.4%
	2021-22	46	257.0	12.7	47.8%	39.1%	13.0%	252.3	15.6	15.2%	47.8%
Sands Montessori Elementary School	2022-23	88	272.6	13.1	10.2%	35.2%	54.5%	273.7	16.1	69.3%	45.5%
	2021-22	74	268.3	17.2	21.6%	28.4%	50.0%	267.6	20.8	63.5%	55.4%
Sayler Park Elementary School	2022-23	22	265.2	12.3	18.2%	59.1%	22.7%	264.1	14.6	31.8%	13.6%
	2021-22	32	259.8	10.3	43.8%	31.3%	25.0%	258.8	12.9	25.0%	43.8%
School For Creative & Performing Arts High School	2022-23	76	264.7	15.7	32.9%	32.9%	34.2%	263.9	17.9	46.1%	51.3%
	2021-22	86	267.8	12.9	18.6%	34.9%	46.5%	266.9	15.7	66.3%	39.5%
Silverton Paideia Elementary School	2022-23	50	264.0	14.6	34.0%	22.0%	44.0%	259.5	13.4	38.0%	40.0%
	2021-22	42	270.4	15.7	7.1%	33.3%	59.5%	266.9	16.7	61.9%	33.3%
South Avondale Elementary School	2022-23	30	258.4	15.4	43.3%	40.0%	16.7%	254.9	16.0	23.3%	30.0%
	2021-22	34	262.9	10.8	35.3%	29.4%	35.3%	261.5	12.3	44.1%	47.1%
Westwood Elementary School	2022-23	44	258.9	12.7	40.9%	40.9%	18.2%	255.4	13.9	31.8%	52.3%
	2021-22	41	259.5	11.6	39.0%	41.5%	19.5%	257.9	13.8	24.4%	36.6%
William H Taft Elementary School	2022-23	27	241.8	16.7	88.9%	11.1%	0.0%	239.3	17.1	3.7%	51.9%
	2021-22	23	259.7	8.0	47.8%	34.8%	17.4%	261.9	11.4	43.5%	65.2%
Winton Hills Academy Elementary School	2022-23	46	256.0	12.3	60.9%	28.3%	10.9%	254.8	14.3	30.4%	45.7%
	2021-22	34	259.1	10.7	44.1%	41.2%	14.7%	259.6	12.9	38.2%	52.9%
Woodford Paideia Elementary School	2022-23	33	256.9	20.9	30.3%	51.5%	18.2%	257.2	25.5	45.5%	66.7%
	2021-22	35	259.9	17.9	25.7%	45.7%	28.6%	260.1	20.1	42.9%	48.6%

Note. Results omitted if N<10.

Table X. KRA-R Scores by ZIP Code

Zip Code	School Year	Students Assessed	KRA-R Overall					Language and Literacy			Percent Documented CPS Preschool
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On-Track	
45202	2022-23	61	260.7	15.4	36.1%	41.0%	23.0%	258.6	17.0	37.7%	41.0%
	2021-22	71	262.6	15.3	36.6%	36.6%	26.8%	259.6	16.8	36.6%	50.7%
45203	2022-23	10	258.3	23.4	50.0%	20.0%	30.0%	253.3	24.6	40.0%	70.0%
	2021-22	15	258.7	21.7	33.3%	40.0%	26.7%	252.1	24.6	26.7%	73.3%
45204	2022-23	46	253.8	17.3	58.7%	30.4%	10.9%	249.7	20.9	17.4%	41.3%
	2021-22	63	257.9	10.8	46.0%	41.3%	12.7%	253.7	14.6	17.5%	33.3%
45205	2022-23	166	250.8	17.3	68.7%	22.3%	9.0%	246.0	20.6	17.5%	38.6%
	2021-22	203	255.4	12.2	58.1%	27.6%	14.3%	250.2	16.9	18.2%	31.5%
45206	2022-23	55	258.3	17.5	41.8%	40.0%	18.2%	256.2	19.2	32.7%	25.5%
	2021-22	63	260.9	14.4	30.2%	44.4%	25.4%	259.2	17.9	41.3%	47.6%
45207	2022-23	55	263.1	15.5	34.5%	30.9%	34.5%	260.4	16.9	43.6%	52.7%
	2021-22	42	264.3	13.9	28.6%	35.7%	35.7%	260.7	14.7	50.0%	38.1%
45208	2022-23	109	274.4	10.9	5.5%	21.1%	73.4%	277.1	13.5	84.4%	4.6%
	2021-22	93	276.1	13.1	3.2%	19.4%	77.4%	278.8	15.8	89.2%	11.8%
45209	2022-23	42	271.1	13.3	16.7%	33.3%	50.0%	273.3	17.1	66.7%	23.8%
	2021-22	37	272.7	13.8	13.5%	32.4%	54.1%	272.9	15.8	73.0%	10.8%
45211	2022-23	257	260.9	14.4	39.7%	38.1%	22.2%	258.7	16.5	35.4%	49.0%
	2021-22	285	262.7	13.6	32.6%	37.5%	29.8%	261.9	16.6	46.3%	42.1%
45212	2022-23	29	263.2	12.2	34.5%	34.5%	31.0%	265.9	20.8	55.2%	37.9%
	2021-22	29	268.6	21.8	13.8%	41.4%	44.8%	268.2	24.0	51.7%	34.5%
45213	2022-23	74	267.4	13.3	16.2%	43.2%	40.5%	267.9	16.4	55.4%	41.9%
	2021-22	87	272.4	15.0	20.7%	20.7%	58.6%	271.6	16.9	65.5%	39.1%
45214	2022-23	58	254.7	15.6	56.9%	32.8%	10.3%	252.1	16.7	20.7%	48.3%
	2021-22	81	260.0	11.0	46.9%	33.3%	19.8%	257.2	12.6	30.9%	40.7%
45215	2022-23	31	259.4	12.6	45.2%	38.7%	16.1%	258.1	12.9	35.5%	41.9%
	2021-22	32	265.1	15.7	28.1%	37.5%	34.4%	265.8	19.5	53.1%	34.4%
45216	2022-23	65	255.2	13.9	61.5%	26.2%	12.3%	251.5	15.9	18.5%	43.1%
	2021-22	95	258.6	14.8	43.2%	37.9%	18.9%	256.0	18.3	30.5%	30.5%
45217	2022-23	14	261.3	17.8	57.1%	14.3%	28.6%	257.7	16.1	35.7%	42.9%
	2021-22	19	263.7	12.5	26.3%	42.1%	31.6%	264.9	17.4	63.2%	42.1%
45219	2022-23	31	258.3	14.3	45.2%	29.0%	25.8%	257.5	18.0	38.7%	32.3%
	2021-22	28	264.4	15.5	35.7%	25.0%	39.3%	264.6	20.0	50.0%	60.7%

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Table X (continued). KRA-R Scores by ZIP Code

Zip Code	School Year	Students Assessed	KRA-R Overall					Language and Literacy			Percent Documented CPS Preschool
			Mean	SD	Emerging	Approaching	Demonstrating	Mean	SD	On-Track	
45220	2022-23	67	266.3	15.9	28.4%	29.9%	41.8%	267.5	18.9	55.2%	37.3%
	2021-22	52	274.0	13.9	7.7%	34.6%	57.7%	273.7	16.6	61.5%	28.8%
45223	2022-23	131	262.3	14.1	38.9%	33.6%	27.5%	260.0	16.5	34.4%	36.6%
	2021-22	146	262.1	12.4	36.3%	37.0%	26.7%	260.7	14.4	36.3%	44.5%
45224	2022-23	89	267.9	17.2	28.1%	22.5%	49.4%	265.7	18.7	56.2%	37.1%
	2021-22	115	265.3	12.0	27.0%	39.1%	33.9%	263.8	13.5	46.1%	42.6%
45225	2022-23	107	258.5	15.6	43.0%	33.6%	23.4%	256.2	17.5	28.0%	43.9%
	2021-22	101	256.1	10.4	52.5%	38.6%	8.9%	254.7	11.7	18.8%	33.7%
45226	2022-23	27	268.3	16.6	25.9%	29.6%	44.4%	267.6	18.9	55.6%	25.9%
	2021-22	15	269.8	13.1	26.7%	13.3%	60.0%	267.6	15.9	60.0%	13.3%
45227	2022-23	54	261.4	15.7	35.2%	38.9%	25.9%	260.1	18.6	33.3%	42.6%
	2021-22	62	264.4	13.4	33.9%	37.1%	29.0%	263.4	16.1	45.2%	50.0%
45229	2022-23	94	258.7	13.7	43.6%	40.4%	16.0%	257.7	16.4	30.9%	46.8%
	2021-22	123	261.9	13.5	35.8%	34.1%	30.1%	261.0	15.8	42.3%	48.8%
45230	2022-23	109	267.8	13.6	20.2%	40.4%	39.4%	267.0	16.1	55.0%	36.7%
	2021-22	75	265.0	16.5	26.7%	38.7%	34.7%	263.3	19.4	53.3%	41.3%
45232	2022-23	103	259.0	11.9	49.5%	34.0%	16.5%	257.3	14.0	32.0%	42.7%
	2021-22	98	261.5	12.5	30.6%	49.0%	20.4%	260.6	14.7	35.7%	42.9%
45233	2022-23	17	262.8	12.7	23.5%	58.8%	17.6%	260.5	19.0	29.4%	11.8%
	2021-22	28	258.0	11.5	53.6%	28.6%	17.9%	257.6	14.8	25.0%	42.9%
45236	2022-23	25	267.0	11.8	20.0%	32.0%	48.0%	265.0	15.3	60.0%	28.0%
	2021-22	31	274.5	12.3	3.2%	29.0%	67.7%	273.0	13.8	77.4%	16.1%
45237	2022-23	125	261.0	14.0	36.8%	36.0%	27.2%	258.2	15.9	36.0%	44.8%
	2021-22	140	261.2	12.5	38.6%	35.0%	26.4%	260.5	14.4	38.6%	36.4%
45238	2022-23	207	260.5	15.8	37.2%	37.7%	25.1%	259.5	18.1	40.6%	44.4%
	2021-22	259	260.0	15.2	39.4%	38.6%	22.0%	258.4	17.0	36.7%	38.6%
45239	2022-23	49	260.5	11.3	40.8%	44.9%	14.3%	260.1	12.1	30.6%	30.6%
	2021-22	55	263.3	12.9	25.5%	45.5%	29.1%	263.3	16.9	50.9%	43.6%

Note. Results excluded for Zip Codes with *N*<10.

Table XI. SES Quartiles by CPS Kindergarten

School Name	School Year	Students Assessed	SES Quartile			
			SES 1	SES 2	SES 3	SES 4
Academy for Multilingual Immersion Studies	2022-23	63	46.0%	31.7%	17.5%	4.8%
	2021-22	58	51.8%	33.9%	10.7%	3.6%
Academy Of World Languages Elementary School	2022-23	57	35.1%	43.9%	14.0%	7.0%
	2021-22	54	42.6%	25.9%	25.9%	5.6%
Bond Hill Academy Elementary School	2022-23	28	10.7%	78.6%	3.6%	7.1%
	2021-22	33	6.1%	87.9%	6.1%	0.0%
Carson Elementary School	2022-23	68	33.8%	54.4%	8.8%	2.9%
	2021-22	85	34.1%	45.9%	17.6%	2.4%
Carthage Elementary	2022-23	77	46.8%	40.3%	10.4%	2.6%
	2021-22	-	-	-	-	-
Chase Elementary School	2022-23	29	24.1%	55.2%	17.2%	3.4%
	2021-22	34	26.5%	41.2%	29.4%	2.9%
Cheviot Elementary School	2022-23	68	16.2%	66.2%	17.6%	0.0%
	2021-22	87	13.8%	29.9%	56.3%	0.0%
Cincinnati Digital Academy	2022-23	9	-	-	-	-
	2021-22	36	50.0%	27.8%	11.1%	11.1%
Clifton Area Neighborhood School	2022-23	50	2.0%	22.0%	20.0%	56.0%
	2021-22	41	4.9%	22.0%	22.0%	51.2%
College Hill Fundamental Academy	2022-23	59	16.9%	49.2%	32.2%	1.7%
	2021-22	52	25.5%	17.6%	56.9%	0.0%
Covedale Elementary School	2022-23	44	4.5%	25.0%	70.5%	0.0%
	2021-22	56	8.9%	8.9%	51.8%	30.4%
Dater Montessori Elementary School	2022-23	94	34.0%	34.0%	30.9%	1.1%
	2021-22	92	28.3%	39.1%	30.4%	2.2%
Ethel M. Taylor Academy	2022-23	31	93.5%	3.2%	3.2%	0.0%
	2021-22	30	80.0%	20.0%	0.0%	0.0%
Evanston Academy Elementary School	2022-23	28	10.7%	57.1%	10.7%	21.4%
	2021-22	34	29.4%	41.2%	20.6%	8.8%
Fairview-Clifton German Language School	2022-23	100	22.0%	23.0%	32.0%	23.0%
	2021-22	87	19.5%	26.4%	36.8%	17.2%
Frederick Douglass Elementary School	2022-23	27	37.0%	55.6%	7.4%	0.0%
	2021-22	33	30.3%	24.2%	42.4%	3.0%
George Hays-Jennie Porter Elementary	2022-23	23	60.9%	26.1%	13.0%	0.0%
	2021-22	34	52.9%	41.2%	0.0%	5.9%

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Table XI (continued). SES Quartiles by CPS Kindergarten

School Name	School Year	Students Assessed	SES Quartile			
			SES 1	SES 2	SES 3	SES 4
Hyde Park School	2022-23	85	1.2%	3.5%	9.4%	85.9%
	2021-22	67	1.5%	3.0%	10.4%	85.1%
James N. Gamble Montessori Elementary School	2022-23	57	36.8%	31.6%	31.6%	0.0%
	2021-22	61	36.1%	19.7%	39.3%	4.9%
John P Parker Elementary School	2022-23	40	5.0%	17.5%	67.5%	10.0%
	2021-22	47	2.1%	36.2%	44.7%	17.0%
Kilgour Elementary School	2022-23	94	1.1%	9.6%	10.6%	78.7%
	2021-22	79	0.0%	5.1%	3.8%	91.1%
Leap Academy at North Fairmont	2022-23	40	75.0%	20.0%	5.0%	0.0%
	2021-22	61	67.2%	21.3%	9.8%	1.6%
Midway Elementary School	2022-23	63	17.5%	76.2%	6.3%	0.0%
	2021-22	82	41.5%	54.9%	3.7%	0.0%
Mt. Airy Elementary School	2022-23	67	61.2%	6.0%	32.8%	0.0%
	2021-22	72	53.5%	7.0%	39.4%	0.0%
Mt. Washington Elementary School	2022-23	44	0.0%	0.0%	47.7%	52.3%
	2021-22	39	2.6%	5.3%	60.5%	31.6%
North Avondale Montessori Elementary School	2022-23	74	17.6%	39.2%	24.3%	18.9%
	2021-22	95	23.2%	45.3%	16.8%	14.7%
Oyler School	2022-23	33	78.8%	18.2%	3.0%	0.0%
	2021-22	42	73.8%	21.4%	4.8%	0.0%
Parker Woods Montessori	2022-23	77	26.0%	19.5%	46.8%	7.8%
	2021-22	74	16.2%	24.3%	58.1%	1.4%
Pleasant Hill Elementary School	2022-23	40	55.0%	20.0%	25.0%	0.0%
	2021-22	69	40.6%	18.8%	40.6%	0.0%
Pleasant Ridge Montessori School	2022-23	76	22.4%	2.6%	40.8%	34.2%
	2021-22	116	0.0%	19.0%	58.6%	22.4%
Rees E. Price Elementary School	2022-23	40	72.5%	25.0%	0.0%	2.5%
	2021-22	66	71.2%	27.3%	0.0%	1.5%
Riverview East Academy	2022-23	21	9.5%	19.0%	23.8%	47.6%
	2021-22	11	45.5%	0.0%	18.2%	36.4%
Roberts Academy: A Paideia Learning Community	2022-23	71	64.8%	28.2%	7.0%	0.0%
	2021-22	78	69.2%	16.7%	12.8%	1.3%
Rockdale Academy Elementary School	2022-23	29	34.5%	55.2%	10.3%	0.0%
	2021-22	30	23.3%	56.7%	16.7%	3.3%

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Table XI (continued). SES Quartiles by CPS Kindergarten

School Name	School Year	Students Assessed	SES Quartile			
			SES 1	SES 2	SES 3	SES 4
Roll Hill School	2022-23	45	97.8%	2.2%	0.0%	0.0%
	2021-22	55	90.9%	7.3%	0.0%	1.8%
Roselawn Condon Elementary School	2022-23	34	64.7%	20.6%	11.8%	2.9%
	2021-22	50	52.0%	42.0%	4.0%	2.0%
Rothenberg Preparatory Academy	2022-23	34	8.8%	35.3%	55.9%	0.0%
	2021-22	46	32.6%	10.9%	6.5%	50.0%
Sands Montessori Elementary School	2022-23	88	0.0%	6.8%	34.1%	59.1%
	2021-22	74	1.4%	5.4%	43.2%	50.0%
Sayler Park Elementary School	2022-23	22	9.1%	36.4%	50.0%	4.5%
	2021-22	32	12.5%	56.3%	31.3%	0.0%
School For Creative & Performing Arts High School	2022-23	76	47.4%	27.6%	19.7%	5.3%
	2021-22	86	25.6%	40.7%	22.1%	11.6%
Silverton Paideia Elementary School	2022-23	50	20.0%	36.0%	34.0%	10.0%
	2021-22	42	11.9%	26.2%	59.5%	2.4%
South Avondale Elementary School	2022-23	29	75.9%	13.8%	0.0%	10.3%
	2021-22	34	60.6%	36.4%	0.0%	3.0%
Westwood Elementary School	2022-23	44	68.2%	9.1%	20.5%	2.3%
	2021-22	41	59.0%	7.7%	33.3%	0.0%
William H Taft Elementary School	2022-23	27	33.3%	48.1%	18.5%	0.0%
	2021-22	23	43.5%	30.4%	4.3%	21.7%
Winton Hills Academy Elementary School	2022-23	46	97.8%	0.0%	2.2%	0.0%
	2021-22	34	91.2%	2.9%	2.9%	2.9%
Woodford Paideia Elementary School	2022-23	33	24.2%	33.3%	27.3%	15.2%
	2021-22	35	31.4%	37.1%	25.7%	5.7%

Note. Results omitted if N<10. Socioeconomic status (SES) characteristics of CPS student families were estimated via the Census Tract they resided in using a methodology illustrated in The Social Areas of Cincinnati (5th Ed.; Maloney & Auffrey, 2013). An SES component score was calculated from five SES indicators from the American Community Survey (ACS) - 5 Year Estimates for 2021. Student residential addresses were geocoded to determine their census tract, which was then used to determine which SES quartile the individual students fall into. SES quartiles operate as a proxy for income and other social factors. They rank from 1 to 4, where lower ranked neighborhoods have a larger concentration of families with socioeconomic risk factors.