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# California's Transitional Kindergarten Expansion

## Technical Appendix

### CONTENTS

Appendix A. Interviews with School Districts

Appendix B. Supplemental Figures and Analyses

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With research support from Beyond Deng

Supported with funding from the Sobrato Family Foundation

# Appendix A. Interviews with School Districts

**TABLE 1**  
 Characteristics of Districts Interviewed

Region	size	TK take up	Basic Aid	%ELL/DLL	%FRPM
Central Valley   Rural	500	90%+	n	0-25%	50-75%
Central Valley   Town	1000	65%	n	0-25%	50-75%
Los Angeles County   Suburban	15,000	65%	n	0-25%	50-75%
Bay Area   City	40,000+	40%	n	0-25%	50-75%
Los Angeles County   Suburban	25,000	50%	n	0-25%	25-50%
Mono County  Remote	1000	90%	y	25-50%	50-75%
Central Coast   Suburban	3000	-	y	0-25%	25-50%
Southern CA   City	40,000+	90%+	n	0-25%	50-75%
Bay Area   City	1,000	NA	y	0-25%	0-25%
Bay Area   City	500	NA	y	0-25%	0-25%

SOURCES: CDE DataQuest 2023-24

**Interview Protocol: California’s Universal Transitional Kindergarten: Interviews w/ School Districts**  
*Public Policy Institute of California*

**Interview Protocol**

**Duration:** 45 minutes

**Location:** Zoom

**Date/time:** \_\_\_\_\_

**Facilitators:** \_\_\_\_\_

**Interviewee:**

**Driving Questions:**

- Has TK expansion been equitable?
- How does TK vary across regions?
- District rollout of TK within universal PreK system? How have districts reckoned with expanding TK option at schools within early care mixed service delivery system...?

**Introduction:**

**[START RECORDING]** We appreciate your consent to record this interview for our research purposes. I will begin the recording now...

Thank you for joining us today, we are grateful for your time. My name is (Name, Position at PPIC) and I will be facilitating this interview along with my colleague(s) \_\_\_\_\_. As you may know, we have asked you to speak with us today because we would like to learn more about your experience with the expansion of Transitional Kindergarten (TK) in your district. Our research project focuses on evaluating the current state of TK. Now that we are a year and a half into its expansion towards universal TK, we are interested in gathering insights from school districts across the state on both the successes and challenges thus far. Our questions today will focus on your experience with program expansion and accessibility, student and family participation, best practices, and capacity building.

If there are no further questions, let’s get started with the first question.

**Questions:**

*[Note: the facilitator will use phrases such as “Tell me more”, “Could you give me an example?”, “Could you explain that?” as prompts to solicit more detailed information when needed.]*

*Introductions:*

1. To get started, let’s introduce ourselves. Can you tell us a bit more about your role at the district and your involvement with TK?
2. What experience and background in TK do you bring to your work?

*Program Expansion:*

3. How does your district decide which schools will offer TK?
4. Are there are groups of students that you have targeted / will target for expansion?
5. Is there variation in how your district has worked with charter schools (if any) to expand TK programs?

*Take-up Rates:*

6. What have you observed about participation in TK programs across your district’s schools?
  - a. **Probe:** What factors have you identified as shaping your district’s TK enrollment levels? (If low, why? If high, why?)
7. How has participation changed over time?

8. Any observations about groups of students / families opting in or out?
  - a. **Probe:** Language groups, disability status, siblings at the school?

*Accessibility:*

9. What **specific** strategies do you implement to connect families to TK at school (outreach, recruitment, etc.)?
  - a. **Probe:** What has been the most successful outreach tool? What has been the least successful?
10. How do you make information about TK accessible to families?
11. Do you provide any targeted outreach to students based on low participation or district priorities?

*Program Components:*

12. What opportunities are there for full time care or after school care for TK students?

*Serving High Need Students:*

13. What type of support do you offer for English Learners in TK?
14. What type of support do you offer for students with **special needs**?

*Challenges:*

15. In your experience, what have been the largest challenges with implementing TK expansion?
16. Are your schools adequately staffed? What is your experience with finding appropriate staff? Are there constraints for expansion?
17. **What is your experience with modifying facilities to be TK appropriate?**
  - a. **Probe:** Have you identified any strategy that has helped solve these problems?

*Success Stories / Best Practices:*

18. What success stories can you share with expanding TK equitably across the district?
  - a. **Probe:** What strategy or practice helped make this possible?

*Capacity Building:*

19. What are the most helpful resources you have identified for expanding TK in your district?
  - a. **Probe:** Does your district utilize any technical assistance from the state, CDE, on rolling out the program?
20. In what ways has your district collaborated with other districts within or outside of your region?
21. What are your district's priorities moving into the final two years of TK expansion?
  - a. **Probe:** Amid declining enrollment, teacher hiring challenges, etc.

**Wrap-Up:**

**Post Interview Comments and/or Observations:**

## Appendix B. Supplemental Figures and Analyses

### Measuring TK Participation: Estimated Take-up Rate

Understanding take-up rates is critical because it reveals whether eligible families are accessing TK and helps identify potential barriers to participation across different communities. TK take-up is estimated by dividing the number of enrolled TK students by the number of eligible four-year-olds. **There are two common approaches** to estimate the number of eligible four-year-olds (the denominator). The first method uses projections of four-year-olds from the California Department of Finance (DOF). The second method uses kindergarten school enrollment from the same year as a proxy. Since not all four-year-olds are eligible for TK yet, either method must scale the denominator by the share of eligible four-year-olds for TK in a given school year.

Both approaches have shown the same take-up trends. Using kindergarteners as the denominator, we estimate a 70 percent take-up rate in 2023-24, whereas estimates using DOF four-year-olds find a 59 percent take-up in the same year.<sup>1</sup> For this report, we estimate TK take-up with the second method—dividing the number of TK students by the number of kindergarten students in the same school year, adjusting the kindergarten denominator by the percentage eligible for TK. For example, in 2023-24, only 58 percent of four-year-olds are eligible for TK. Thus, we calculate take-up by dividing the number of observed students in TK by 58 percent of the kindergarten cohort of the same year. We use TK and Kindergarten counts from the California Department of Education (CDEs) Census Day enrollment data, collected in October of each school year.

The advantages of using the kindergarten-enrollment denominator are the following:

1. We can estimate the number of eligible children at the state, district, and school level.
2. We can estimate the number of eligible children by race/ethnicity, low-income status, DLL status, and special education status.
3. We can examine more localized changes in enrollment.
4. We minimize the possibility that race/ethnicity is identified differently across data sources. Table B1 suggests that might be the case.

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<sup>1</sup> Melnick and Garcia (2024).

**TABLE B1**

Using different denominators, school and DOF race/ethnic take-up estimates vary

	Take-up estimates	
	Kindergarten denominator	DOF denominator
White	72%	47%
Black	66%	51%
AIAN	67%	67%
Asian	73%	*53%
PI	60%	47%
Filipino	74%	
Latino	70%	65%
TOTAL	70%	60%

Source: CDE TK Census Day Counts, Kindergarten Counts and DOF Report P-3: Population Projections, 2020 to 2070, California Counties, 2023 Baseline

Note: DOF Asian Estimate included Filipino

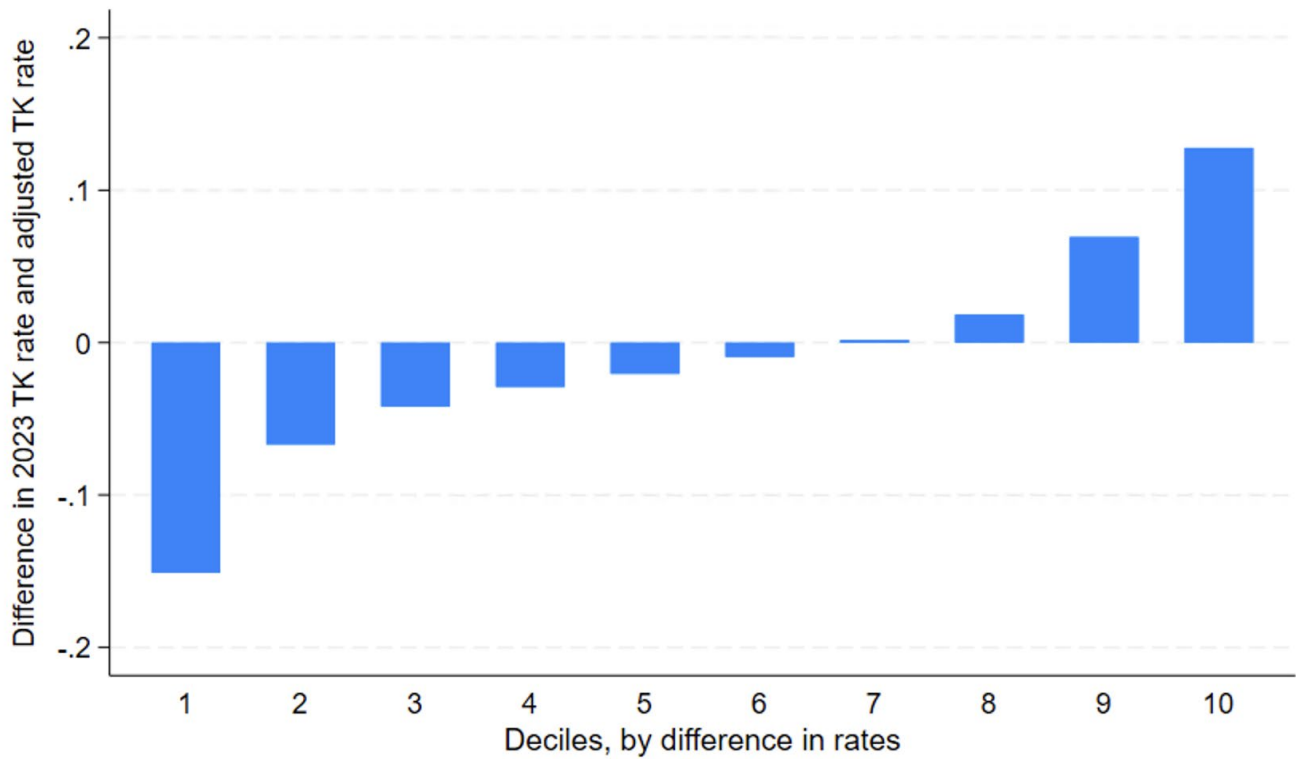
One disadvantage of this method is that we do not capture all kindergarten-age children in California. We are limited to kindergarten students who are enrolled in a public school; therefore, we do not capture children attending private kindergarten, that are home schooled or are not enrolled until the mandatory enrollment age of six.

Another disadvantage of our method is that declining enrollment may mean our kindergarten counts might be overestimates of eligible four-year-olds for the current year. If we adjust our take-up rate for statewide enrollment declines between 2023-24 and 2022-23, the take-up rates increase from 70.2 percent to 70.4 percent. Figure B1 illustrates by distribution of the adjustment factor by district decile. If we instead adjust for enrollment declines from the kindergarten classes between 2023-24 and 2022-23, take-up increases to 72 percent.

In our analysis it is possible to observe above 100 percent TK take-up rates, particularly at the district level due to some districts offering TK to younger four-year-olds who are not eligible yet according to state guidelines. Some districts have expanded TK ahead of schedule, thus serving more four-year-olds than technically eligible for a given school year.

**FIGURE B1**

Declining enrollment has little impact on our estimate of TK take-up rates

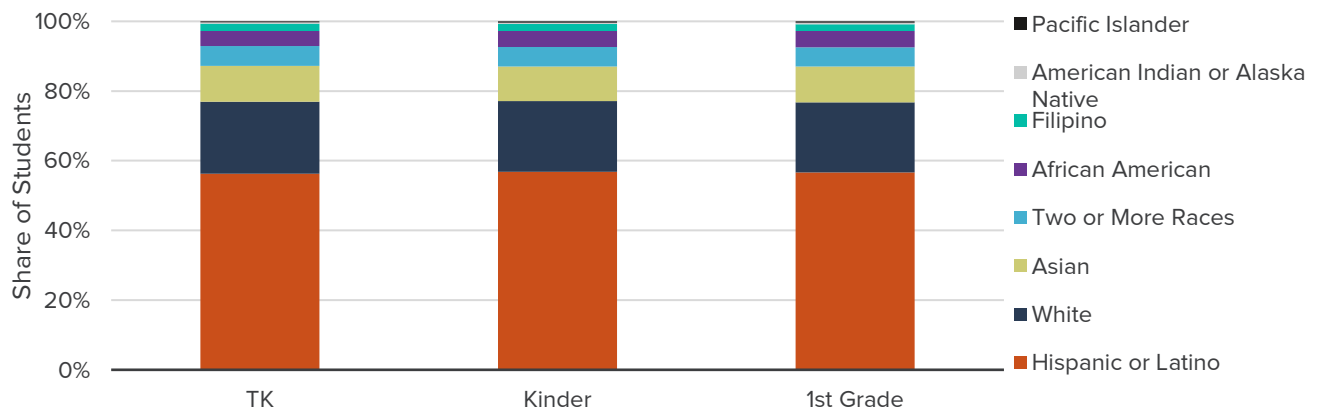


SOURCE: California Department of Education (CDE) TK Census Day enrollment

NOTE: We sort districts into deciles by the percentage difference between TK take-up rates estimating using kindergarteners in the same year versus using kindergarteners counts that adjust for declining enrollment

**FIGURE B2**

TK students are representative of the racial diversity of California’s kindergarten and 1<sup>st</sup> grade students in 2023-24

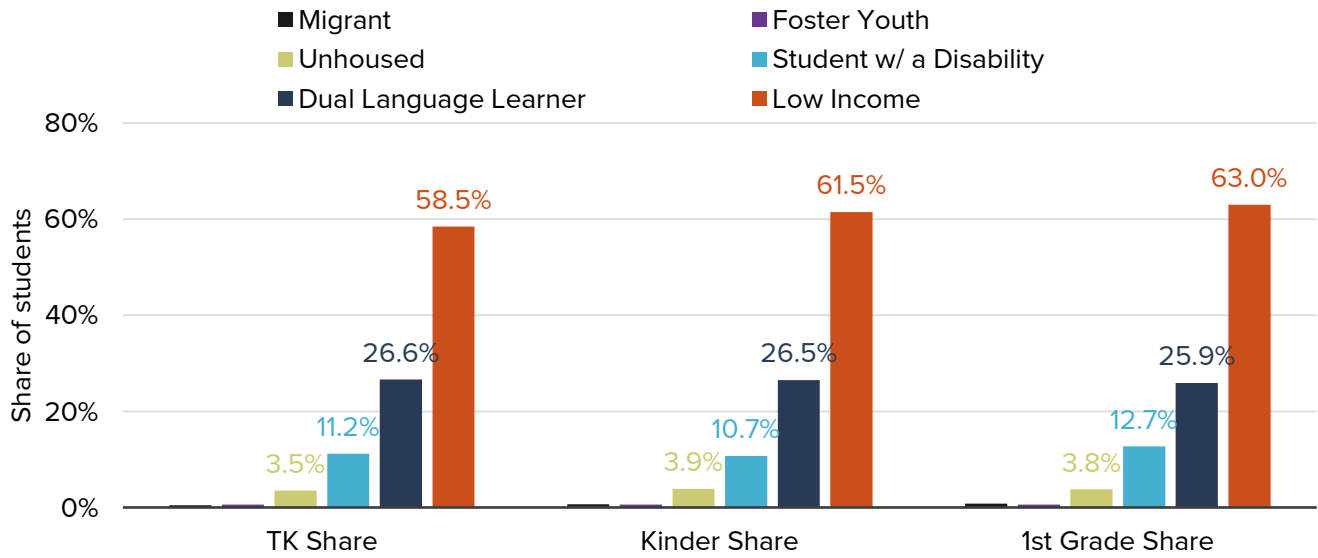


SOURCE: CDE TK enrollment, 2023–24.

NOTE: TK Census Day counts. CDE breaks out Filipino students from other Asian students and we follow that practice in this report. Total count excludes "Not Reported" Race/Ethnicity category.

**FIGURE B3**

TK High Needs Groups are representative of the K and 1<sup>st</sup> grade students in 2023-24

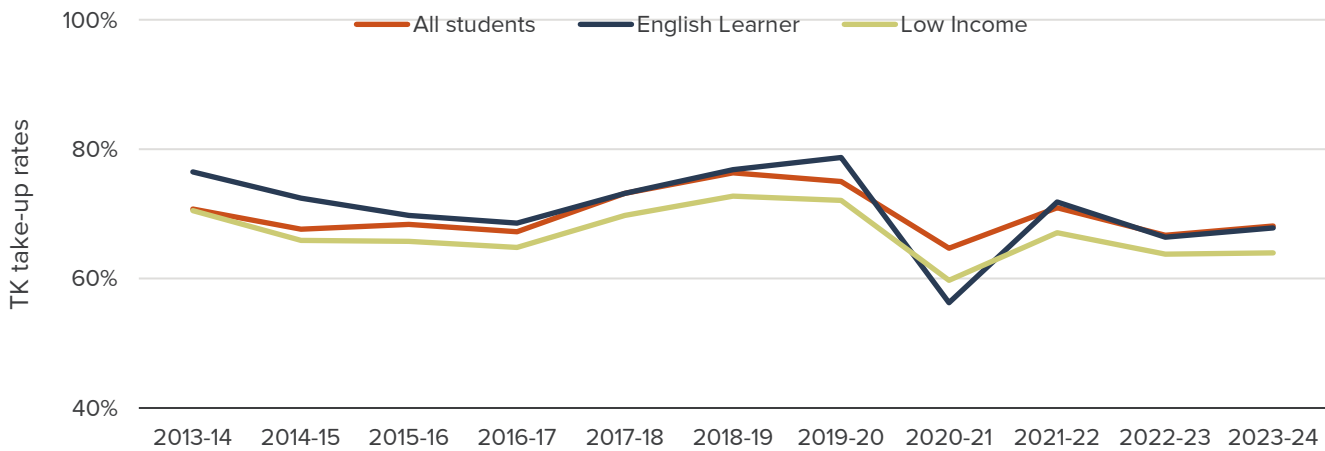


SOURCE: CDE TK, Kindergarten, and 1<sup>st</sup> grade Census Day enrollment 2023-24

NOTE: TK, K Census Day counts. Includes charter and non-charter schools.

**FIGURE B4**

Difference between DLLs smaller when LAUSD excluded

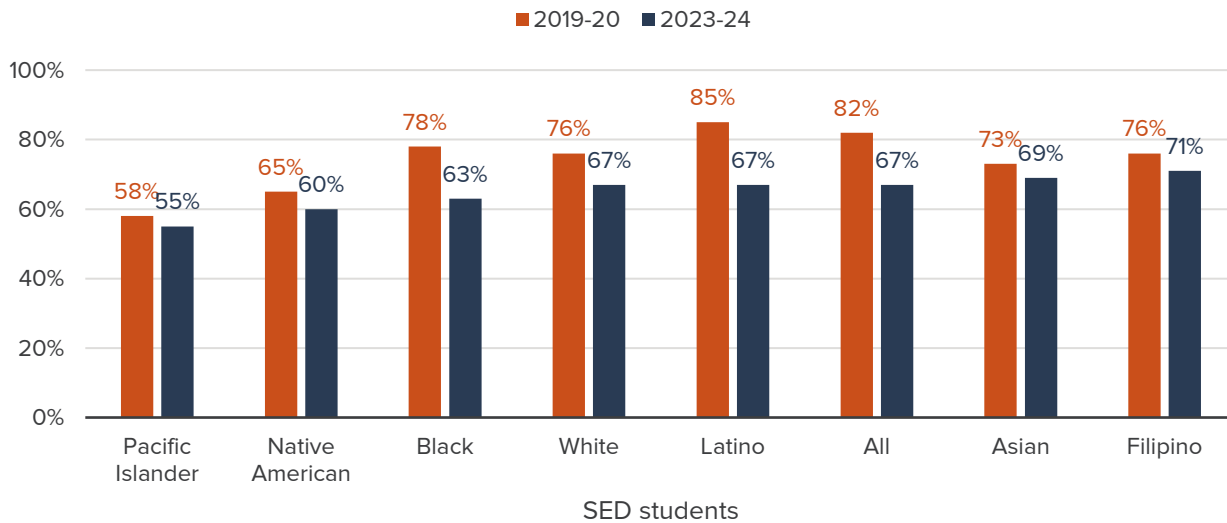


SOURCE: CDE TK Census Day Enrollment

NOTE: "Low Income" is based on proxy of student eligibility for free and reduced lunch.:

**FIGURE B5**

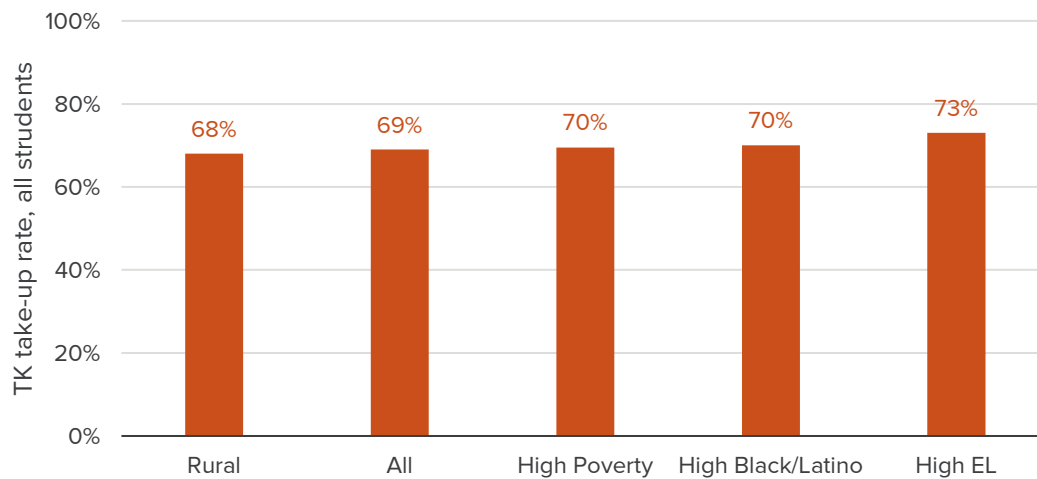
Socioeconomically disadvantaged Pacific Islander children have the lowest TK take-up rates.



SOURCE: CDE’s DataQuest 2023-24 Annual enrollment data

**FIGURE B6**

TK participation is somewhat higher in high EL districts



SOURCE: California Department of Education (CDE) TK and Kindergarten Census Day enrollment

NOTE: Rural districts are located in a rural area as defined by the National Center for Education Statistics, High Poverty is 75% or more of the district’s students are eligible for free or reduced-price meals, High Black/Latino is 75% or more of the district’s students are Black or Latino, High EL is 25% or more of the district’s students are ELs.

### Are take-up rates related to which districts are expanding?

In an effort to understand if any changes in TK take-up rates by race, ethnicity, and language status are due to the types of districts that are expanding their TK offerings, we estimate regressions. We model two specifications: one where our dependent variable is calculated as the percentage change in district TK levels from 2019 to 2023, while controlling for 2019 district level information of the covariates listed above. Our districts only include elementary and unified school districts that have at least one kindergarten student. This leaves us with 680 school

districts in our sample that have complete data. However, not all districts offered TK in 2019, meaning their percent change would be calculated as undefined (starting from a base level of 0). Thus, we model a second specification that examines a subset of districts that offered no TK in 2019, where the dependent variable is a dummy variable indicating whether the district expanded TK at all by 2023. Of the 135 school districts with no TK in 2019 and complete data, 85 of them expanded by 2023.

In our first specification, the range for the percent change measure is quite significant, with the smallest change being a 100% decrease (-1) and the largest being 27,750% increase (277.5). Because 95 percent of districts had a TK growth rate of up to 400% we limited the sample to the districts that were at or below the 95<sup>th</sup> percentile. The only significant predictors of expansion is whether a district is a Basic Aid district. We weight the sample by the size of the district enrollment.

**TABLE B2**  
District characteristics correlated with TK expansion

VARIABLES	Percent change in TK from 2019 to 2023	(1)
<i>ln(enrollment)</i>	-0.0853**	(0.0424)
Share Native American	-1.734	(2.069)
Share Asian	0.307	(1.784)
Share Pacific Islander	12.02	(9.468)
Share Filipino	-1.403	(2.517)
Share Hispanic	0.149	(1.841)
Share White	-0.0358	(1.855)
Share Black	0.663	(2.252)
Share Other race	2.545	(2.476)
Share ever EL	-0.107	(0.449)
Share FRPM	-0.276	(0.337)
Whether Basic Aid	-0.273*	(0.153)
ELA scores	-0.000262	(0.000285)
Constant	2.186	(1.837)
Observations	680	

R-squared	0.093
<b>Weighted.</b> Robust standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

SOURCES: California Department of Education (CDE) TK Census Day enrollment

NOTES: District-level regression coefficients reported. Sample includes only elementary and unified school districts that have at least 1 kindergarten student. Dependent variable is calculated as a percent change in TK enrollment between 2019 and 2023. Covariates are all using 2019 data. Regression weighted by district enrollment size.

We explore heterogeneity in our results by race/ethnic groups, EL, and SED status to see if any correlates are concentrated in a particular subgroup. We noted that take up rates have declined for Latino children and have remained low for Black, Native American, and Pacific Islander students. Among Black children, being in a Basic Aid district and having a higher district share of English Learners is associated with lower TK growth. There are no statistically significant predictors of growth in TK for Pacific Islander children and among Native American and Latino children, district size is predictive of TK growth. For students who are classified as socioeconomically disadvantaged, those in Basic Aid districts again have lower TK growth rates. Only the district share of Pacific Islanders is positively associated with TK growth among students who are SED. Overall, the results indicate that district level characteristics may still not fully explain the differentials in TK take up rate by race/ethnic groups, but may instead be attributed to other unobserved group differences

**TABLE B3**

Subgroup regressions based on race/ethnicity, EL, and SED

VARIABLES	White	Black	Asian	Latino	Filipino	Pacific Islander	Native Am
<i>ln(enrollment)</i>	0.00429 (0.0304)	-0.0324 (0.0599)	-0.0242 (0.0535)	-0.117** (0.0496)	-0.0601 (0.0964)	0.0272 (0.0955)	0.229** (0.0968)
Share Native American	1.253 (2.601)	-19.37 (13.83)	-25.61*** (7.260)	-4.319 (2.764)	-38.83*** (12.19)	-12.78 (17.79)	-3.521 (8.421)
Share Asian	-1.345 (2.202)	-8.122 (5.654)	-6.436 (4.112)	-1.168 (2.497)	4.871 (5.680)	-9.163 (9.099)	-2.343 (7.727)
Share Pacific Islander	-2.274 (10.51)	20.89 (15.31)	36.08* (19.98)	7.320 (10.21)	-15.71 (18.04)	-15.81 (18.41)	-54.55 (42.60)
Share Filipino	-1.793 (2.962)	-8.525 (5.952)	-8.501* (4.766)	-3.757 (3.264)	4.173 (6.618)	-11.94 (9.147)	-2.297 (8.502)
Share Latino	-1.314 (2.280)	-7.872 (5.574)	-7.058* (4.105)	-1.547 (2.532)	3.668 (5.567)	-14.45 (8.936)	-5.870 (7.949)
Share White	-0.829 (2.316)	-9.098 (5.727)	-7.265* (4.173)	-2.052 (2.587)	3.837 (5.707)	-12.33 (8.912)	-2.242 (8.028)
Share Black	-3.270 (2.461)	-8.712 (6.116)	-9.710** (4.426)	-0.983 (2.897)	6.265 (5.787)	-14.39 (9.311)	-1.919 (8.899)
Share Other race	3.243 (2.789)	0.102 (6.487)	0.273 (5.112)	2.111 (3.239)	9.086 (7.659)	-9.060 (10.90)	6.639 (10.12)
Share ever EL	0.991 (0.670)	-1.294* (0.741)	-1.245 (0.784)	-0.835 (0.533)	0.212 (1.150)	-1.030 (1.822)	1.975 (1.406)
Share FRPM	0.0737 (0.419)	-0.278 (0.729)	0.710 (0.758)	-0.345 (0.371)	-0.185 (1.174)	3.602* (1.910)	1.842 (1.387)
Whether Basic Aid	-0.124 (0.164)	-0.565* (0.304)	-0.297 (0.241)	-0.201 (0.220)	-0.0824 (0.573)	0.0472 (0.342)	0.846 (0.868)
ELA scores	-0.000155 (0.000287)	-0.00292 (0.00307)	-0.00213 (0.00308)	-0.000555 (0.000472)	-0.00537* (0.00306)	-0.00262 (0.00448)	-0.00209 (0.00273)
Constant	1.638 (2.220)	16.41* (9.805)	13.05 (8.128)	5.281** (2.653)	10.34 (8.514)	17.52 (13.84)	5.176 (9.847)
Observations	617	309	357	627	254	119	171
R-squared	0.064	0.154	0.121	0.167	0.074	0.211	0.265

SOURCE: California Department of Education (CDE) TK Census Day enrollment.

NOTE: District-level regression coefficients reported for each subgroup. Sample includes only elementary and unified school districts that have at least 1 kindergarten student. Dependent variable is calculated as a percent change in TK enrollment between 2019 and 2023. Covariates are all using 2019 data. Regression weighted by district enrollment size. Robust standard errors in parentheses, \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

In our second specification, we focus on the districts that did not offer TK in 2019 to see if there is any relationship between district characteristics and the move to providing TK by 2023. As mentioned above, 135 school districts offered no TK in 2019. We exclude districts without ELA scores, so there are only 112 districts total, of which 77 had expanded. Again, we find that being a Basic Aid decreases the probability that a district will start offering TK. Additionally, the district share of Filipino and white students also had negative associations with starting a TK program after 2019, while the district share of other race was positively correlated with starting a TK program. It is important to note that all of the largest districts in the state were already providing TK by 2019 (Hill and Prunty 2022).

**TABLE B4**

District characteristics correlated with starting TK after 2019-20

VARIABLES	(1) Whether expanded
<i>ln(enrollment)</i>	0.00200 (0.0363)
Share Native American	-1.415 (0.873)
Share Asian	-0.776 (0.879)
Share Pacific Islander	20.77 (13.72)
Share Filipino	-7.511* (3.830)
Share Hispanic	-0.936 (0.825)
Share White	-1.602* (0.837)
Share Black	-1.350 (1.210)
Share Other race	2.694* (1.487)
Share ever EL	-0.0399 (0.445)
Share FRPM	0.314 (0.311)
Whether Basic Aid	-0.364* (0.199)
ELA scores	-9.95e-06 (6.84e-05)
Constant	1.729** (0.844)
Observations	112
R-squared	0.480

SOURCES: Source: California Department of Education (CDE) TK Census Day enrollment

NOTES: District-level regression coefficients reported. Sample includes only districts that had no TK in 2019. Dependent variable is a dummy variable indicating if a district went from having no TK in 2019 to having TK in 2023. Covariates are all using 2019 data. Regression weighted by district enrollment size. Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



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