

Eighth-Grade Outcomes for LA 4 Cohort 1 Students

Background of the LA 4 Longitudinal Study

In the fall of 2002, Cohort 1 (3,711 students) began as the first full-year participants in the LA 4 program. These LA 4 students were assessed in the fall and spring of their preK year and then were followed for each year they were in Louisiana public schools. Starting in kindergarten, the LA 4 students were compared with other students entering kindergarten in the same schools who did not receive any form of public preK or Head Start; this comparison group is referred to in this report as no-public-preK (NPPK). The school achievement data for these two groups of children take into account whether the students received Free and Reduced price Lunch (FRL).

Previous reports on the LA 4 Longitudinal Study have demonstrated that the LA 4 students have significantly higher rates of on-time arrival at fourth grade (that is, they were never retained in grade) and markedly lower rates of placement into special education. In addition, the standardized achievement scores of the LA 4 students compared to income-matched, same-school peers were significantly higher in both third grade and fourth grade in all four subject areas assessed (English Language Arts, Mathematics, Science, and Social Studies) on the *i*LEAP and LEAP, respectively. Finally, the LA 4 students performed at levels above the state average in all subjects.

This report presents, for the first-time, the data about the academic achievement of the LA 4 Cohort 1 outcomes at the end of eighth grade.

Eighth-Grade Academic Achievement for LA 4 and Comparison Groups

The Cohort 1 LA 4 and comparison students took the eighth-grade LEAP test in the spring of 2012. The primary analyses focuses on children considered at risk based on their eligibility for Free and Reduced Lunches. These at-risk children represent more than 85% of the LA 4 group. Figure 1 displays the findings for the at-risk (Free and Reduced Lunch status) children for all subject areas of the LEAP test. In all subjects, significantly more LA 4 participants scored at the level of Basic or above than did at-risk comparison children who had no public pre-K. In contrast, for the small proportion of LA 4 children who did not receive Free and Reduced Lunches, participation in LA 4 had no impact on their eighth-grade achievement scores.

Eighth-Grade LEAP Results for LA 4 Cohort 1 (2002-03), Free and Reduced Lunch Only

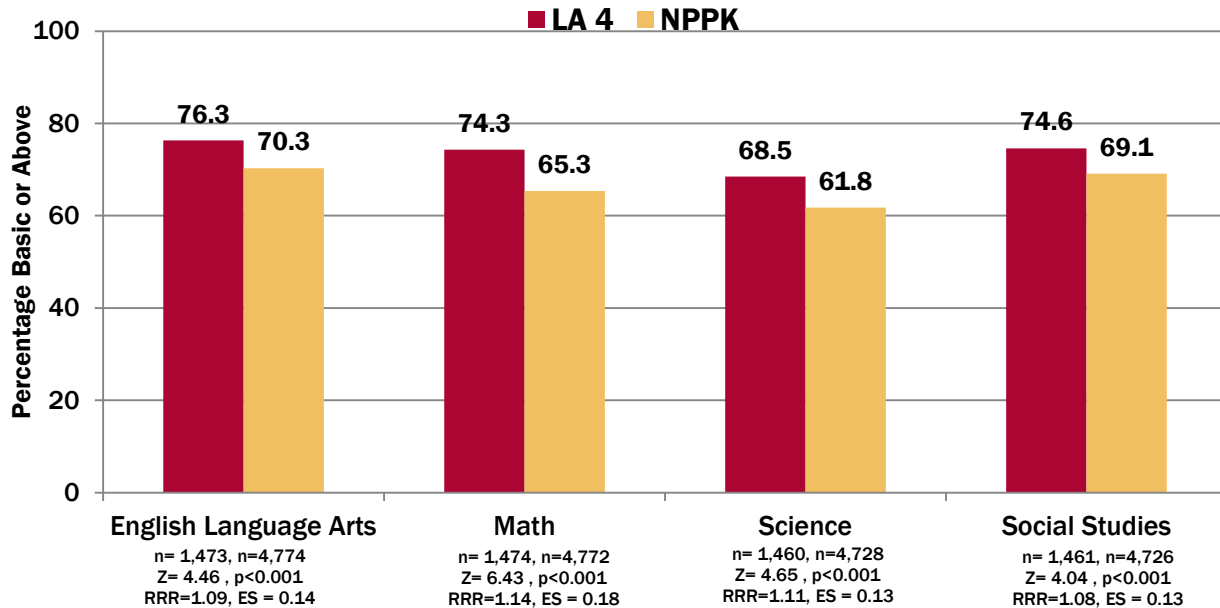


Figure 1: LEAP results comparing FRL students who participated in LA 4 in 2002-03 to matched group of kindergarten students with no publicly funded pre-K experience entering kindergarten at the same time, for the first time, in the same schools as LA 4 students.

Figure 2 presents the 8th grade LEAP results for subgroups of FRL students. The same pattern is seen for each of the subgroups as was evident in the analysis of the group as a whole. Students that participated in LA 4 had significantly better performance on all subjects of the LEAP test than their NPPK demographic peers. The relative risk ratios (see Table 1) indicate that the effect is very similar for both boys and girls. And while both black and white students have statistically significant benefits when compared to their NPPK peers, the relative risk ratios indicate that the effects are greater for black students.

Table 1: Relative Risk Ratios for LEAP results for LA 4 Cohort 1 (2002-03) FRL students. All differences are statistically significant except for those marked with a *.

Relative Risk Ratios				
Group	ELA	Math	Science	Social Studies
All (n=10,292)	1.09	1.14	1.11	1.08
Gender				
Boys (n=4,878)	1.10	1.14	1.09	1.05
Girls (n=5,414)	1.07	1.14	1.13	1.11
Race				
Black (n=3,973)	1.10	1.19	1.15	1.09
White (n=5,895)	1.05	1.05	1.06	1.04*
Other (n=424)	1.08*	1.14	0.92*	1.07

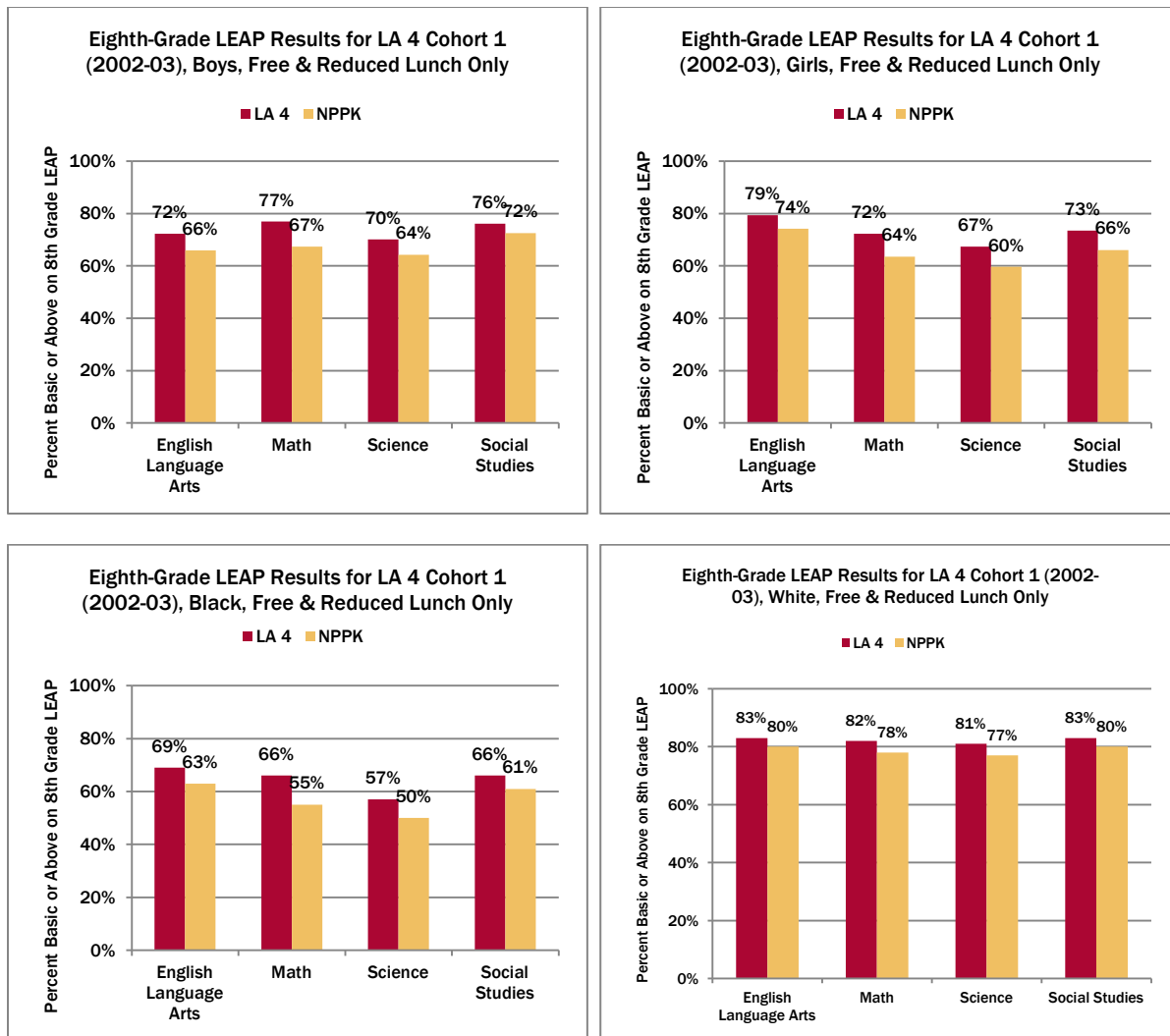


Figure 2: LEAP results comparing subgroups (Boys, Girls, Black, and White students) of FRL students who participated in LA 4 in 2002-03 to matched group of kindergarten students with no publicly funded pre-K experience entering kindergarten at the same time, for the first time, in the same schools as LA 4 students.

Grade Retention/Repetition by Eighth Grade

The LA 4 students and their matched comparison students were tracked from initial kindergarten entry through the next nine years in school (corresponding to on-time arrival at eighth grade). Figure 2 shows that significantly more of the at-risk FRL students who received LA 4 were never grade-retained and thus arrived on time at eighth grade. For the relatively small number of non-FRL students who participated in LA 4, a higher proportion repeated a grade than for the comparison group. As we have noted in previous reports, it is highly likely that the non-FRL students who attended LA 4 were from families whose income was substantially lower than for the general population of non-FRL students in the comparison no-public-preK group. We plan to conduct more detailed analyses using family background data on the LA 4 non-FRL children to confirm this likelihood.

**On-Time Eighth-Grade Arrival for LA 4 Cohort 1
(2002-03; Proportion of Children Still Found in LA Public Schools)**

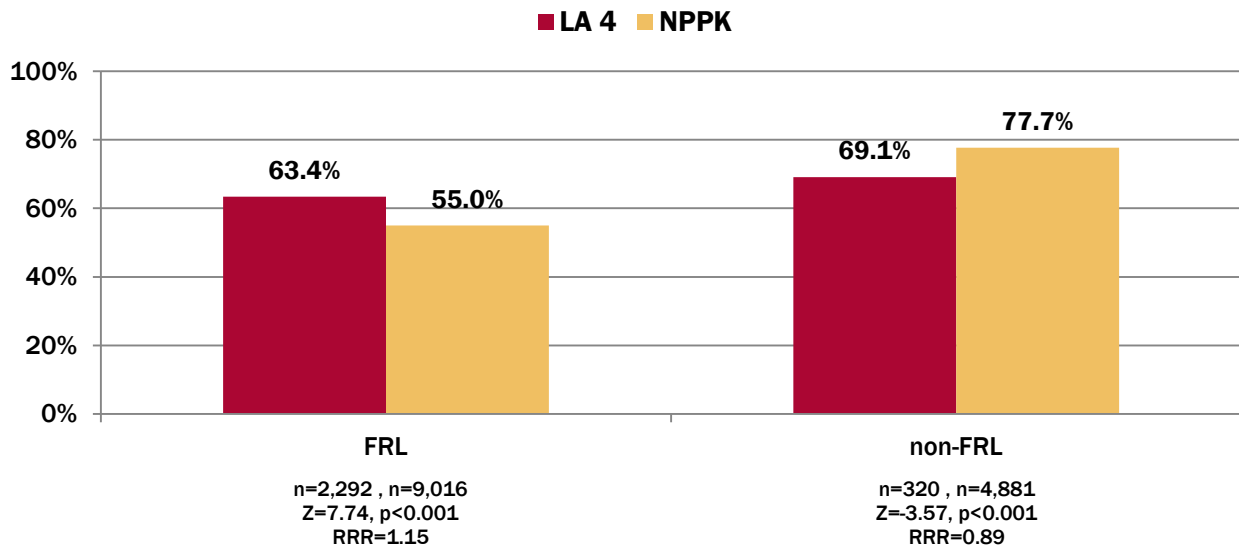


Figure 3: Percentage of students from LA 4 and the NPPK comparison group who began kindergarten in the fall of 2003 and reached eighth grade on schedule in 2011-12. Excludes students lost to follow-up.

Note that the Relative Risk Ratio (RRR) in Table 2 indicates that FRL LA 4 participants are 15% significantly more likely to reach eighth grade on time than their NPPK FRL peers. The non-FRL comparisons indicate that LA 4 participants are 11% less likely to be on time. Also in Table 2, FRL students reach 8th grade on-time in significantly greater numbers than their FRL peers that did not participate in LA 4, regardless of gender or race. Students with a non-FRL, non-LA 4 background reach 8th grade on-time at significantly greater rates than their LA 4 peers.

Table 2: Comparison of Relative Risk Ratios of FRL and non-FRL students from LA 4 and the NPPK comparison group who began kindergarten in the fall of 2003 and reached eighth grade on schedule in 2011-12. RRRs greater than 1.0 indicate greater likelihood of reaching 8th grade on time for LA 4 students, while RRRs less than 1.0 indicate students are less likely to be on-time. All differences are statistically significant except for those marked with a *.

Relative Risk Ratios		
	FRL (n=11,308)	Non-FRL (n=5,201)
All	1.15	0.89
Gender		
Boys	1.13 (n=6,008)	0.87 (n=2,776)
Girls	1.14 (n=5,300)	0.90 (n=2,425)
Race		
Black	1.17(n=6,822)	0.95* (n=794)
White	1.11 (n=4,106)	0.89 (n=4,235)
Other	1.09* (n=380)	0.98* (n=172)

In an effort to gain a deeper understanding the relationship of poverty to on-time 8th grade arrival, the data were re-analyzed by further subdividing the FRL population into separate groups for students who qualified for free lunch and those who qualified for reduced price lunches. Figure 4 displays the results of this more refined analysis. It shows that students qualified for free lunches still show a significant difference in on-time 8th grade arrival when compared to their NPPK peers. Those LA 4 students that qualify for reduced price lunches (i.e., from families that earn between 130% and 185% of the federal poverty rate) do not reach 8th grade at significantly different rates than their NPPK peers. As seen previously, LA 4 students that qualify for neither free nor reduced price lunches arrive on-time in 8th grade at lower rates than their non-FRL NPPK peers. Further analyses are required to fully understand the non-FRL results, but may be related to non-FRL family resource differences that are masked by the use of FRL as a surrogate for household incomes.

**On-time 8th Grade Arrival LA 4 Cohort 1
(2002-03; proportion of children still found in LA Public Schools)**

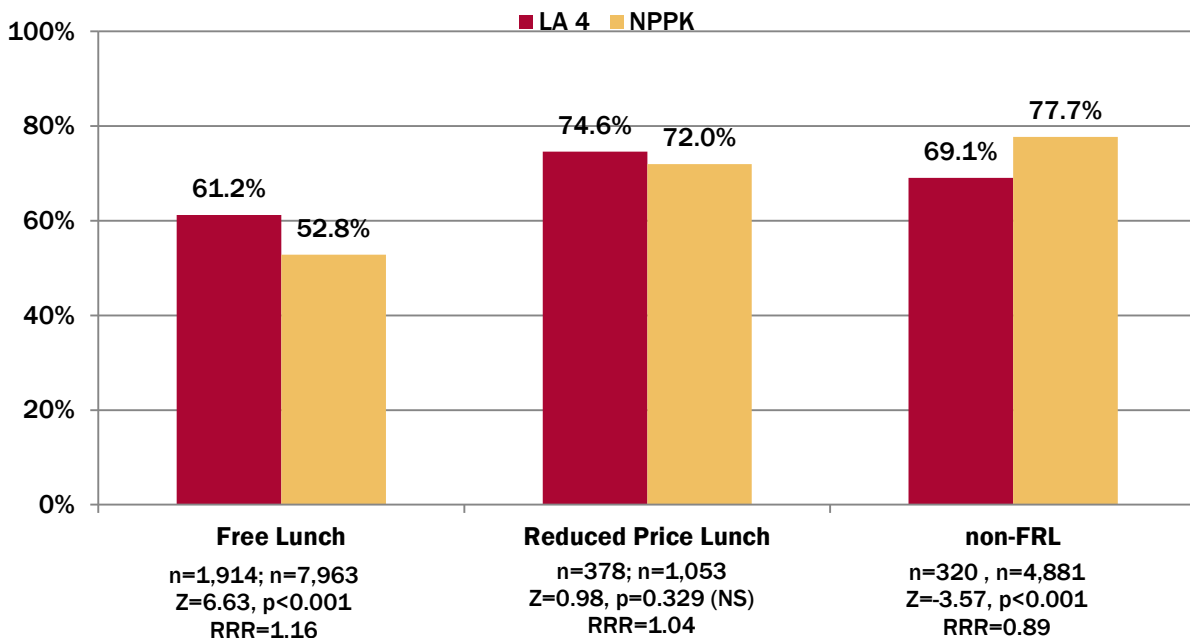


Figure 4: Percentage of students from LA 4 and the NPPK comparison group who began kindergarten in the fall of 2003 and reached eighth grade on schedule in 2011-12. Excludes students lost to follow-up.

Special Education

Finally, the rates of placement in special education for students who participated in LA 4 are compared to the NPPK comparison group. All students who are still found enrolled in Louisiana public schools are included in the analysis regardless of grade placement. As shown in Figure 4, the rate of FRL students identified with disabilities is reduced by 54% for LA 4 compared to the NPPK children. The non-FRL rates of identification are not statistically different between the two groups.

**Children with Disabilities, LA 4 Cohort 1 (2002-03)
Eight Years after Kindergarten Entry**

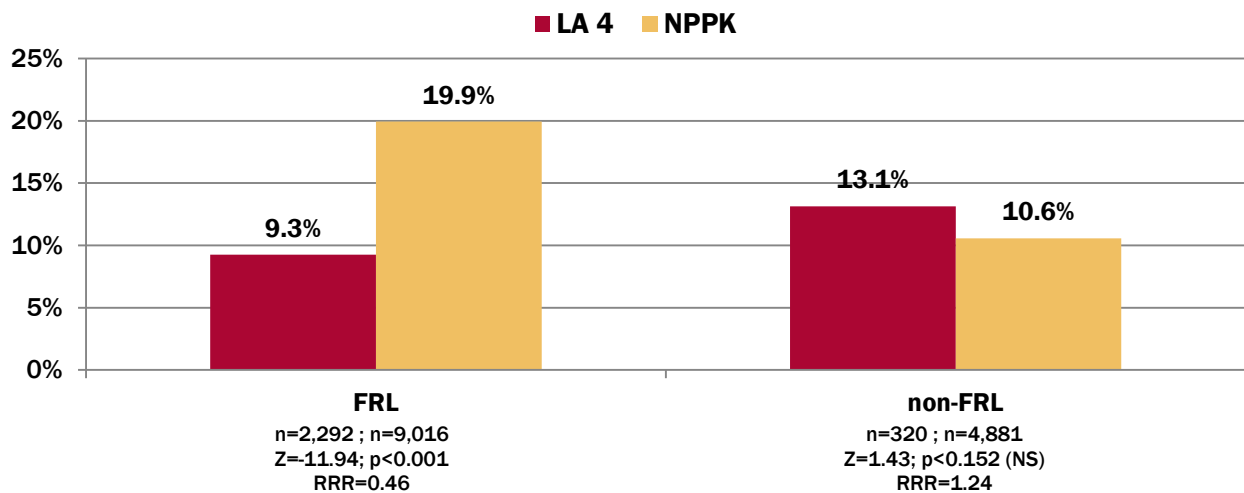


Figure 5: Comparison of Special Education placement (students with disabilities) for FRL and non-FRL LA 4 participants to NPPK group.

Analyses were also performed by gender and race. The results of the subgroup analyses mirror the results that were found on the cohort overall. The benefits of LA 4 participation were significant for all subgroups that were qualified for free or reduced price meals and the differences between LA 4 and NPPK non-FRL students were not statistically significant. Girls and boys that were FRL benefited from LA 4 participation in comparison to their NPPK peers, but the effect was somewhat stronger for girls (RRR = 0.37) than it was for boys (RRR=0.54). Similarly, both black and white students benefited from participation and the effect was somewhat greater for white students (RRR=0.42) than for black students (RRR=0.50).

Summary

This preliminary brief represents the first-ever longitudinal report of a statewide preK program's outcomes through eighth grade. Previous reports on the LA 4 program have demonstrated statistically significant outcomes through fourth grade on the first four full-year cohorts of LA 4. The analyses indicate that LA 4 participation has resulted in statistically significant increases in the rate of students scoring Basic or above of 9% for ELA, 14% for math, 11% for science, and 8% for social studies. Students were also at least 10% more likely to reach eighth grade on time, and the rate of placement in special education was less than half of the NPPK comparison group. Additional analyses demonstrate that the magnitudes of benefits are similar for both boys and girls. While all races and ethnicities benefit from participation in LA 4, the magnitude of the effects in all domains are generally greater for non-white students. Additional research and analyses is warranted to determine whether, or to what extent, LA 4 participation has an effect on closing the achievement gap.