RESTART AS A SCHOOL IMPROVEMENT STRATEGY

Findings from a National Sample | by Public Impact

Acknowledgments

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EXECUTIVE SUMMARY

School restarts offer one option to improve chronically low-performing schools. Under the management of a new operator and with greater operational flexibility, restarts are positioned to implement more dramatic change than most other improvement efforts, while continuing to serve existing students.

Our research analyzes the progress of restarts that began between 2010 and 2016, based on the adjusted state percentile ranking (SPR) of their schoolwide proficiency rates. We find that, on average, restarts had a positive and statistically significant impact on both English language arts (+6.5 points) and math (+9.0 points) over six years as measured by the change in SPR from the baseline year. SPR gains were consistently larger for restarts than for other public schools in the same district boundaries, suggesting that environmental effects did not drive them. They were also larger than two of the most widely used improvement methods during the study period—"turnaround" and "transformation"—under the federal School Improvement Grant (SIG).

But behind these averages lie significant variation across restarts. The top-performing restarts increased their SPR by three to four times that of the average restart. Despite these gains, however, restarted schools did not, on average, become high-performing; the average restarted school remained in the bottom quintile after six years.

INTRODUCTION

When a school struggles to support student learning year after year, continuing with the status quo will not do. In response, education leaders long chose between just two options: They could attempt an internal turnaround by replacing staff, reprioritizing needs, and perhaps infusing the school with additional funds—or they could close the school.

Both strategies have shortcomings, though. Turnarounds must often work within the same operating conditions and constraints as the original school, limiting leaders' ability to truly innovate and overcome the challenges that led to low performance in the first place.[1] If a school closes instead, students are scattered to other schools. That alone can disrupt student progress, and there are not often enough high-quality schools available in which displaced students can enroll.[2]

Restart offers education leaders a third option. In this study, a restart is defined as a new organization—most often a charter school operator—taking responsibility for managing the school. The new operator has at least limited autonomy over people management, including the authority to replace the school leader and hire new staff, as well as over day-to-day operations, such as budget, curriculum, and scheduling. The new operator is also solely accountable for school results and is contractually obligated to improve performance.

In theory, restarts offer a greater opportunity to break from whatever may have held that school back. At the same time, the new operator guarantees enrollment for current students, creating less disruption than a school closure.

Five Characteristics of a Restart

1. **Transition of school management.** Management of a low-performing school shifts to a new charter school operator, education management organization, or state education agency under a charter or contract agreement.
2. **Autonomy to manage people.** The new operator has at least limited autonomy to manage people, such as the authority to replace the school leader and hire new staff.
3. **Autonomy to run day-to-day operations.** The new operator has autonomy to run day-to-day operations such as budget, curriculum, school schedule, and calendar.
4. **Accountability.** The contract holds new operators solely accountable for school results, including improving performance.
5. **Guaranteed seats.** Restart operator guarantees seats to students already attending the school.

The Rise of School Restarts

Initially proposed in the early 2000s,[3] school restarts gained traction as a school improvement strategy in 2009 when it became one of four eligible approaches for federally funded support of chronically low-achieving schools. Since then, their popularity has only grown. In 2017, for example, Texas passed S.B. 1882, which incentivizes districts to partner with charters to turn around low-performing schools; Florida has a similar law focused on high-performing charters. Restart is one of four models included in Indianapolis's Innovation Schools Network, a semi-autonomous zone that Indianapolis Public Schools created in 2015–16. And more than 24 states authorize districts to create some form of "autonomous district schools," opening the door to restarts.

So, does the strategy work? The research to date generally shows mixed results. One group of studies considers restarts under School Improvement Grants (SIG). SIG was a federal grant program that awarded local education agencies (LEAs) up to $2 million annually over three years to adopt one of four improvement models, one of which was restart. Those studies found that restarts had no impact on student performance. Another group of studies considers the impact of restarts within a particular city or district. The results of those studies have been mixed: About half found that restarts had a positive impact, while the rest found no impact or a negative impact. Finally, a recently released meta-analysis of turnaround research found evidence of improved student achievement for restarts. (See Appendix A, "Summary of restart research," page 24.)[4]

ABOUT THIS STUDY

This study adds to prior research in three key ways (see Figure 1):

1. It includes all U.S. restarts that began between 2010 and 2016 for which baseline performance data and at least one year of post-restart data are available, making it the largest restart dataset studied to date.[5]
2. It uses an adjusted state percentile rank (see explanation on page 7) applicable to all schools regardless of the test administered, and allowing for comparisons across states.
3. It includes up to six years of post-restart data.[6]

For descriptive statistics on the dataset, see "Restarts at a Glance" on page 8.

Figure 1. This Study vs. Previous Studies

PREVIOUS STUDIES	THIS STUDY
□ Research generally focused on specific, limited geographies	■ Includes all U.S. restarts begun from 2010 to 2016 for which baseline performance data and at least one year of post-restart performance data are available[7]
□ Analysis used different metrics not easily translatable across geographies	■ Uses a state percentile rank that can be calculated for all schools regardless of tests administered
□ Time frame limited to 3–4 years	■ Includes up to six years of post-restart data

Adjusted State Percentile Rank

This study measures restart success in terms of the change in a school's adjusted state percentile rank (SPR) since the year preceding the restart (the baseline year).

SPR results are on a scale of 1 to 99, and rank a school's English language arts (ELA) and math proficiency results based on standardized tests and high school exams in relation to all other public schools in the state. Schools with an SPR closer to 1 are considered low-performing; schools with an SPR closer to 99 are considered high-performing. For example, a school whose ELA proficiency rate was greater than or equal to only 5 percent of the state's schools would have an SPR of 5 for ELA.

Our methodology takes the additional step of adjusting the SPR based on the number of test-takers in each grade. This accounts for differences in grade-level proficiency and differences in grades served by the school. As a result, a school serving grades K–8 would be ranked relative to all schools in the state that serve grades K–8, and the school's SPR would not be affected by results for high schools that serve grades 9–12.

To gauge each restart's success, we look at its change in SPR from baseline. In other words, how far did it move from its starting point, and how far did comparison schools move over the same period? For example, if a school restarted during the 2013–14 school year, then 2012–13 would be considered that school's baseline. In its baseline year, 2012–13, the school had an ELA and math SPR of 7 and 8, respectively. Then in 2018–19, the school's sixth year since restarting, the school had ELA and math SPRs of 13 and 15, respectively. In all, we would say this school improved its SPR in ELA and math by 6 and 7 points, respectively, from baseline to year 6.

Study Limitations

This study has four notable limitations:

1. **The analysis is limited to student proficiency on English language arts (ELA) and math state assessments.** Our study draws on student proficiency data because it is available nationwide and can be standardized using our SPR methodology. The same is not true of other metrics that could provide meaningful insights into changes in the quality of teaching and learning (such as student growth scores, state accountability ratings, climate indicators, and social-emotional indicators).
2. **The number of restarts in the dataset decreases over time.** The number of restarts for which we have data decreases over time because the restarts in our dataset began in different years. As a result, the trend analyses do not capture an "apples to apples" comparison of change for the same group of schools over time, but rather an average for all schools with data in the baseline year and years one through six of the restart. Additionally, we do not include data for seven or more years post-restart in our main analysis, because the dataset included fewer than 75 restarts with the minimum performance data required in those years.
3. **The analysis does not account for full fallout from closures.** Seventeen (8.2%) of the restarts in the dataset closed. Our analysis does not account for the additional drag these schools would have likely had on overall restart schools' improvement had they remained open and in our dataset, or the impact of closure on the broader education landscape (for example, how displaced students performed in their new schools).
4. **Some restarts cannot be evaluated due to missing data.** Twenty-four (11.5%) of the 208 restarts did not have baseline data, due to state data suppression rules, test administration issues (such as Tennessee), data reported at network level, or untested grades.

RESTARTS AT A GLANCE

We identified 208[8] restarts that began between 2010 and 2016.

97%
Students of Color

88%
Free- or Reduced-Price Lunch

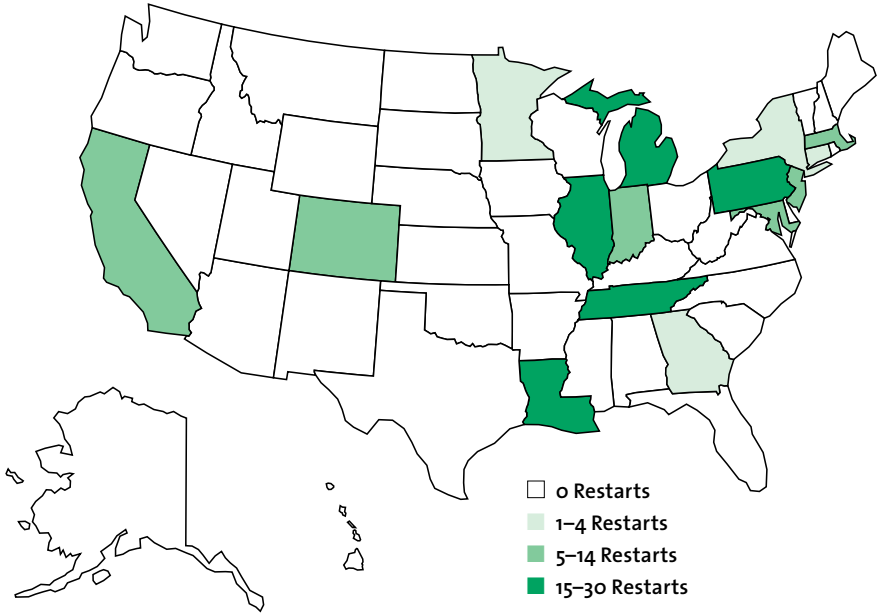
13%
English Language Learners

16%
Special Education

7%
State Percentile Rank in ELA

8%
State Percentile Rank in Math

The restarts took place in 16 states. Most (60%) were in just five cities—Chicago, New Orleans, Detroit, Philadelphia, and Memphis.



Restarts unfolded differently . . .

81%
Restart of District- or State-Managed School[9]

64%
Restarted as a Charter School (vs. Contract)

50%
Initiated by LEA

82%
Restarted Whole School at Once

60%
Operators Had Less than 6 Months to Prepare

75%
New Operators Based in Community Served

Research Questions

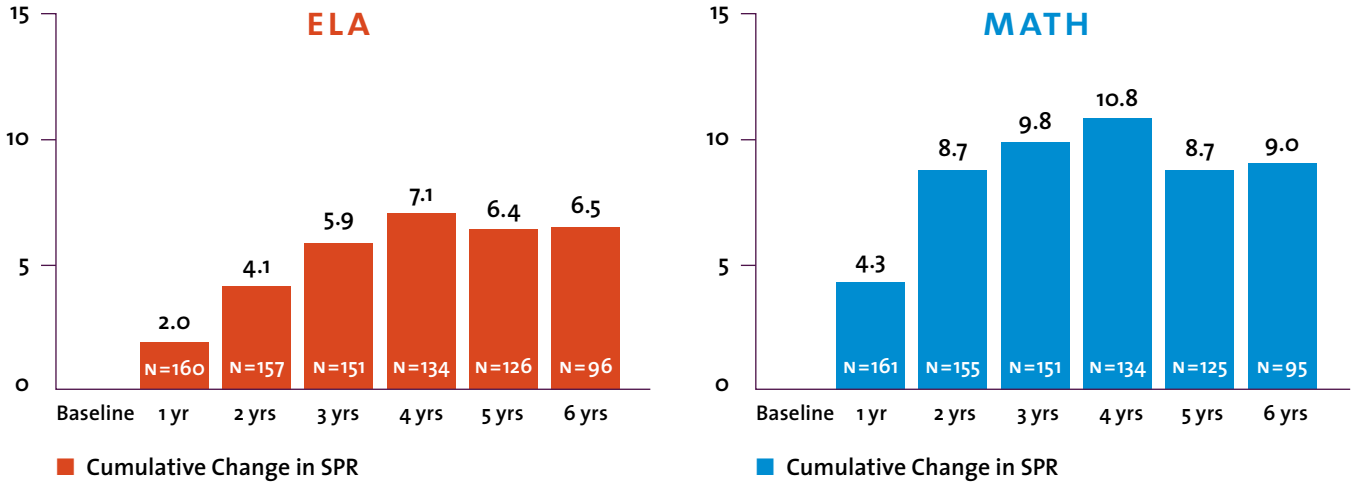
The rest of this report addresses three research questions:

1. What impact have restarts had on schools' academic performance?
2. How do changes in academic performance at restarted schools compare to those of other public schools in the district?
3. How do changes in academic performance at restarted schools compare to those of other improvement efforts?

RESEARCH QUESTION 1.
WHAT IMPACT HAVE RESTARTS HAD ON SCHOOLS' ACADEMIC PERFORMANCE?

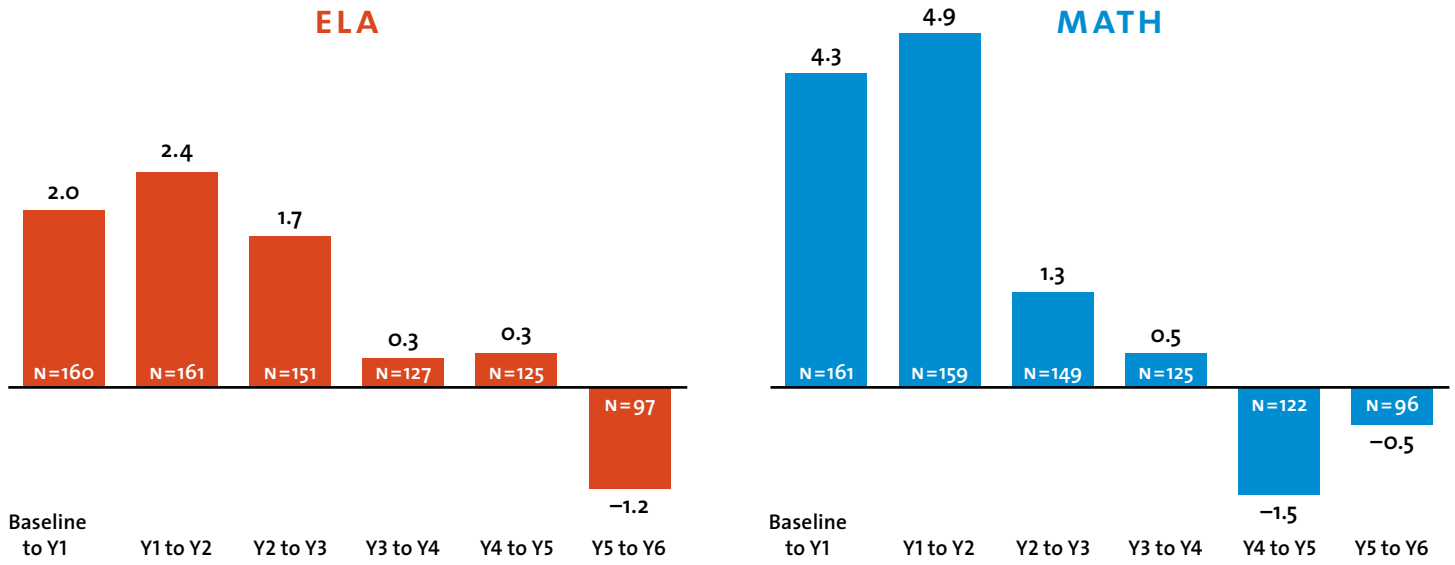
For the average restart in our dataset, SPR increased 6.5 points in ELA over six years and 9.0 points in math (see Figure 2, page 11). With the exception of ELA growth from baseline through the first year of the restart, cumulative gains were statistically significant (see Appendix B, page 25). Gains were uneven over the study period, however. On average, SPR increased through the first four years, but slid back in the fifth and grew only slightly in the sixth (see Figure 3, page 11). These gains do not appear to be linked to changes in student populations: When we examine student demographic enrollment from before and after restart, we see no significant change in demographics. (For more detail on enrollment, see Appendix E, page 31.)

Figure 2. Cumulative Change in SPR over Six Years



Note. Data include all schools with data for their baseline year and the year(s) indicated on the X-axis. Schools enter and drop out of the dataset at different points. As a result, graph does not capture an "apples to apples" comparison of change for the same group of schools over time, but rather an average for all schools with data in the baseline year and year X. See Appendix B for sample sizes.

Figure 3. Year-Over-Year Change in SPR over Six Years



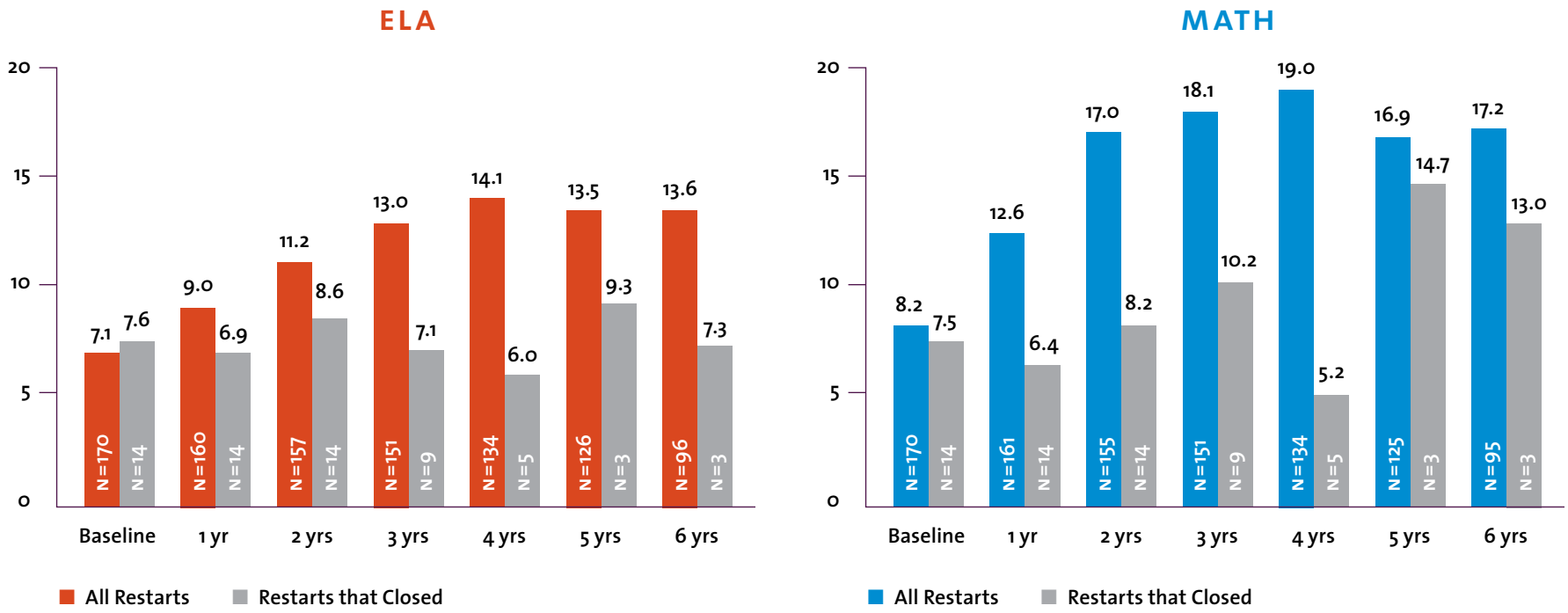
Note: Each bar represents all schools for which data is available in consecutive years.

Estimating the Impact of Restart Closures

Seventeen of the restarts included in our dataset (8.2%) eventually closed. Those schools may have closed because the restart failed to increase performance. When those lower-performing restarts closed and dropped out of the dataset, average performance across the remaining restarts may appear to improve—not because the average restart achieved greater gains, but because the dataset shed some of its the lowest performers. Hence, we asked: To what extent do the gains captured in the previous figures reflect the closure of low-performing restarts?

The data show that, on average, the restarts that closed had a similar SPR as all restarts at baseline, but that they made less growth over time (see Figure 4). Removing closures from the dataset completely, however, has little impact on the overall results; excluding them from the dataset would have increased initial growth in math SPR (Years 1 and 2) by 1 point and had no impact on ELA growth (see Appendix B, page 25).

Figure 4. Change in SPR, Restarts that Remained Open v. Restarts that Closed



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Had the closed restarts remained open and produced similar results as when they approached closure, however, they would have caused a drag on the results for the larger sample. In addition, closures have an impact on the broader education system in a city. Most notably, students previously enrolled in closed schools must find a seat elsewhere. In all but a handful of instances, district schools must accommodate such students, and too often, high-quality seats are not available to them.[10]

To measure the full impact restarts have, it would be necessary to analyze where these displaced students went and how they performed over time, which was beyond the scope of this study.

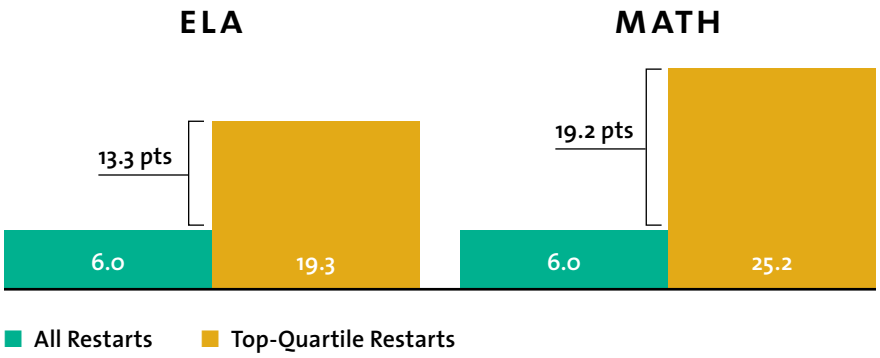
The Promise of Top-Performing Restarts

Restart performance was uneven across the dataset, with some schools increasing their SPR by double digits while others fell by a similar magnitude. The data presented earlier capture the results we can reasonably expect from restarts on average. Ideally, however, restarts will not just reproduce "average" results. Instead, the sector will learn from its successes and failures, and the average will gradually increase over time.

On average, top restarts made 3 to 4 times more growth than the average restart

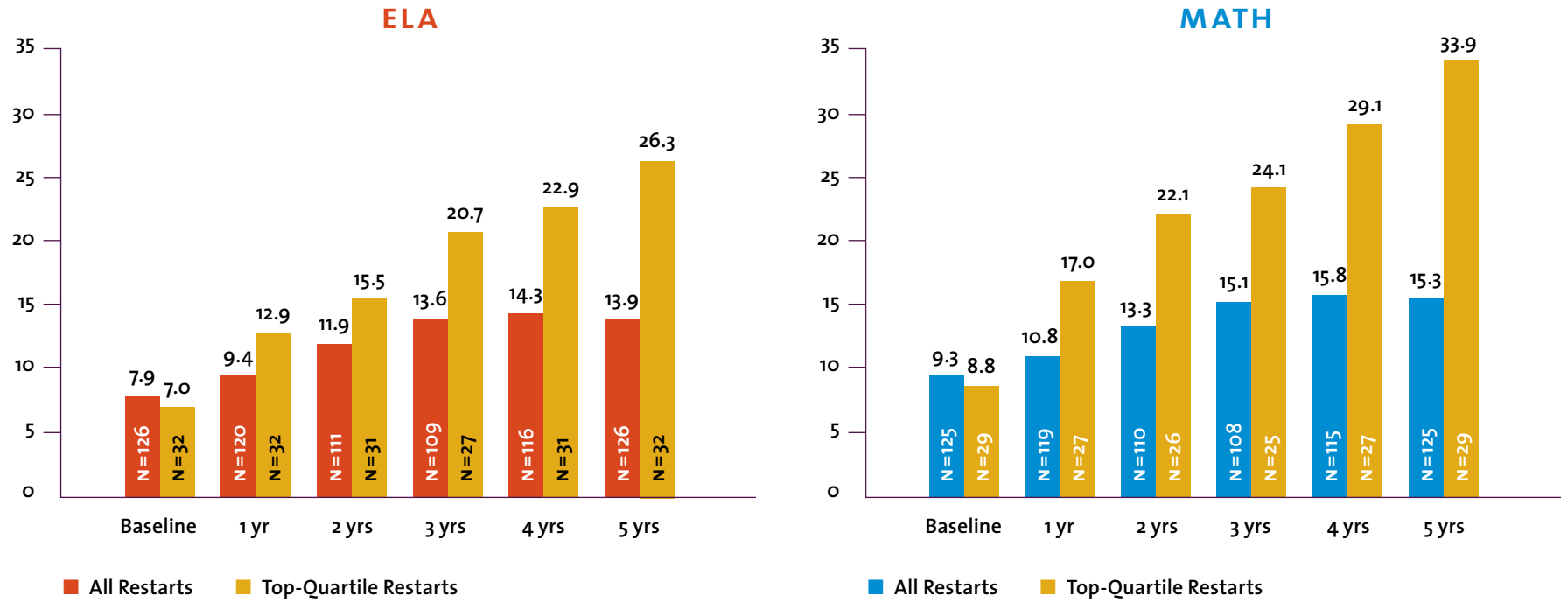
The best restarts show what's possible if education leaders implement the strategy well. We therefore identified top performers, defined as schools making top-quartile growth over the first five years of the restart. We then compared their growth to that of the larger restart dataset with at least five years of performance data post-restart. On average, top performers increased their SPR by 19.3 points in ELA and by 25.2 points in math over five years, compared to gains of just 6.0 points in both subjects for all restarts. In other words, on average, restarts making top-quartile growth over five years increased their SPR by three to four times that of all restarts (see Figure 5).[11] Looking closer, we find that these top performers had a similar starting SPR as other restarts, but that they improved much more substantially (see Figure 6, page 14).

Figure 5. Increase in SPR over Five Years, Top Quartile Restarts v. All Restarts



Note: "All Restarts" here include only schools with at least 5 years of results.

Figure 6. Year-Over-Year Changes in SPR, Top Quartile Restarts v. All Restarts



Note. "All Restarts" here includes only schools with at least 5 years of results.

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More research needed to identify what sets top performers apart

Education leaders need to know what sets these top performers apart to replicate their results. In an attempt to answer that question, we sought to collect a variety of qualitative data describing how the restart was implemented (see Figure 7).

Several factors limited our ability to analyze the relationship between these qualitative characteristics of restart and SPR growth. In most instances, the agencies overseeing restarts had no process in place to document these data during the restart process. With turnover in the personnel involved in restarts, institutional knowledge was often lost by the time we tried to gather data. In addition, the sector lacks consistent ways to define and measure several key restart factors, such as the degree of operator autonomy and community engagement. As a result, we were not able to create a consistent data set that allowed us to determine the degree of correlation between these variables and restart success. For subsequent research on restarts, establishing definitions and data-collection protocols up-front and then gathering data while restarts unfold would enable better analysis of success factors.

Figure 7. Qualitative Factors Describing Restart Implementation

- School governance
- Authorizer type
- Type of restart management organization
- Local vs. non-local operators
- Type of restart
- Enrollment process
- Union participation
- Level of operator autonomy
- Level of community input
- Percentage of eligible original students who reenrolled
- Percentage of original staff retained
- Percentage of original board members retained

RESEARCH QUESTION 2.
HOW DO CHANGES IN ACADEMIC PERFORMANCE AT RESTARTED SCHOOLS COMPARE TO THOSE OF OTHER PUBLIC SCHOOLS IN THE DISTRICT?

It is possible that the restart gains noted earlier reflect a larger set of conditions happening across a city or region rather than something specific to the restart itself, such as increases in funding over time, implementation of a more actionable accountability system, or new citywide talent systems. As a way to control for those conditions, our analysis compares restart gains to the gains of other public schools within the district boundaries in 13 districts where performance data are available for five or more restarts.[12]

District Improvements Do Not Explain Restart Gains

As Figure 8 shows, restarts in the 13 districts we studied improved more over six years than surrounding public schools. More specifically, on average, restarts improved by 6.5 points in ELA, compared to 1.3 points in surrounding public schools, and 9.0 points in math compared to 0.8 points in surrounding public schools (though the difference between them was significant only in math—see Appendix B, page 25). In fact, on average, in every city for which data were available for five or more restarts at year 3, restarts outgrew other public schools over three years (see Figure 9, page 18).[13]

Since average restart gains were so much larger than the average gains surrounding public schools made, local environmental factors do not seem to drive the improvements observed across the restart sample.

Figure 8. Cumulative Change in SPR Over Six Years, Restart v. District

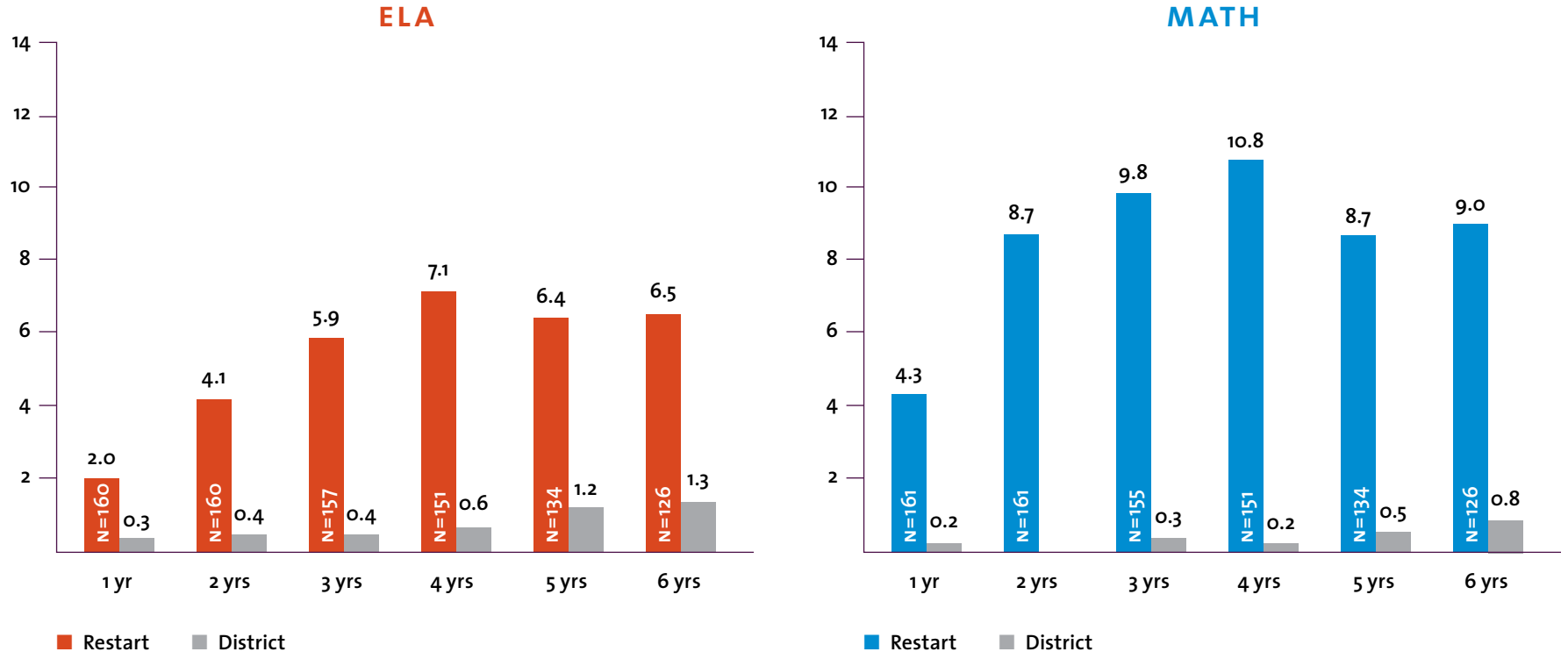

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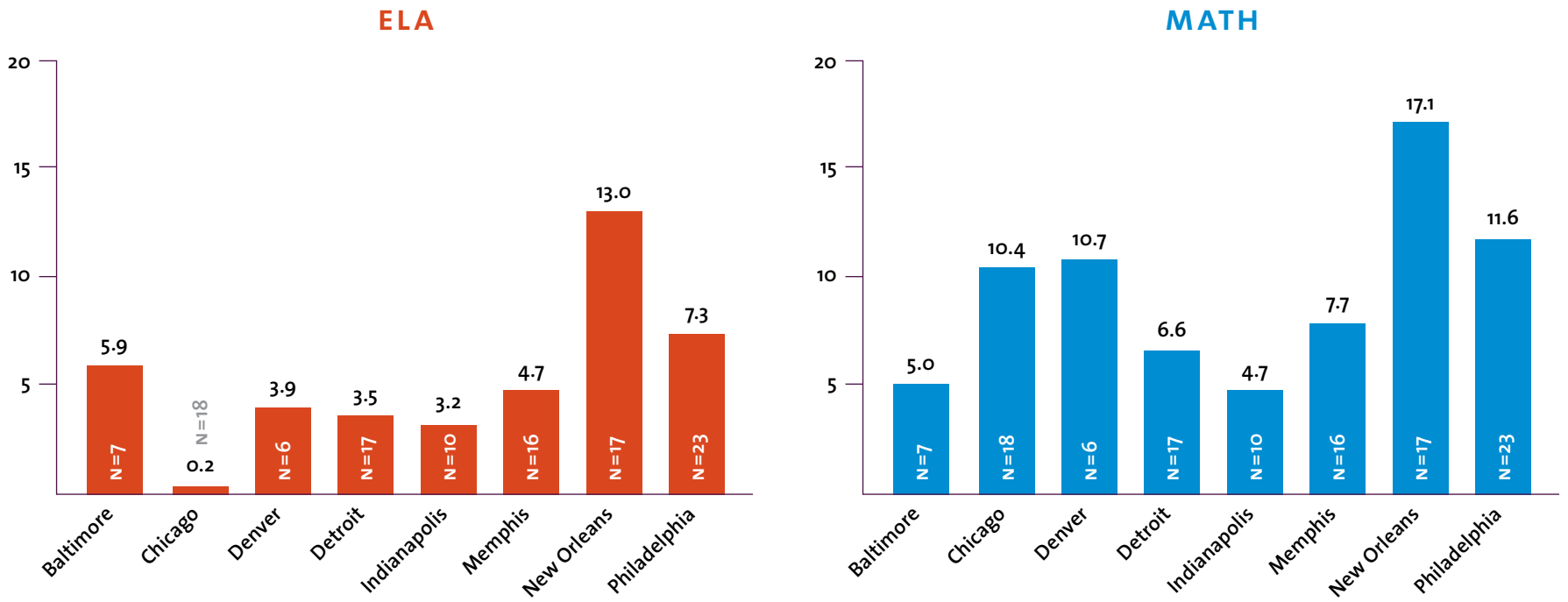
Figure 9. Difference in Change in SPR after Three Years, Restarts v. Other Schools in District



RESEARCH QUESTION 3.
HOW DO CHANGES IN ACADEMIC PERFORMANCE AT RESTARTED SCHOOLS COMPARE TO THOSE OF OTHER IMPROVEMENT EFFORTS?

Beginning in 2010, the U.S. Department of Education awarded School Improvement Grants to support the nation's "persistently lowest-achieving schools." Schools could receive up to $2 million annually over three years to adopt one of four improvement models (see table at right).

Our analysis compared how SPR changed for the restarts in the database relative to 560 SIG turnaround and transformation schools in 14 states.[14] This comparison puts the gains restarts made into context and speaks to the impact of one improvement strategy relative to another.

MODEL	DESCRIPTION
Turnaround	■ Principal and at least 50% of staff replaced ■ Principal receives increased autonomy
Transformation	■ Principal replaced ■ Take steps to increase teacher effectiveness ■ Increase learning time ■ Provide operational flexibility
Closure	■ Close school and reassign students to higher-achieving schools
Restart	■ Convert school, or close and reopen it under new management

Restart Gains Outpaced Other SIG Models

Our analysis found that, on average over six years, restarts gained an additional 1.9 points in ELA and 4.8 points in math over SIG turnaround and transformation schools (see Figure 10). Since restarts had a lower SPR at baseline than schools adopting these other models, the performance gap between the average restart and the average SIG school shrank from 5.1 points to 3.2 in ELA and closed completely in math over that time (see Figure 11, page 21). With few exceptions, the average SPR gains that SIG schools made were statistically significant every year (see Appendix B). In addition, the difference between the average gains that restarts and other SIG schools made were statistically significant in math each year and about half the time in ELA (see Appendix B).

SIG turnaround and transformation schools were more likely to close than restarts. Just over 12 percent of SIG turnaround and transformation schools closed, compared to 8.2 percent of restarts. The top quartile of SIG schools made similar average gains to top restarts over five years. On average, top-quartile SIG schools outgrew top-quartile restarts slightly in ELA (21.2 v. 19.3 points) and lagged top-quartile restart growth slightly in math (22.1 v. 25.2 points).

Figure 10. Cumulative Change in SPR, Restarts v. SIG over Six Years

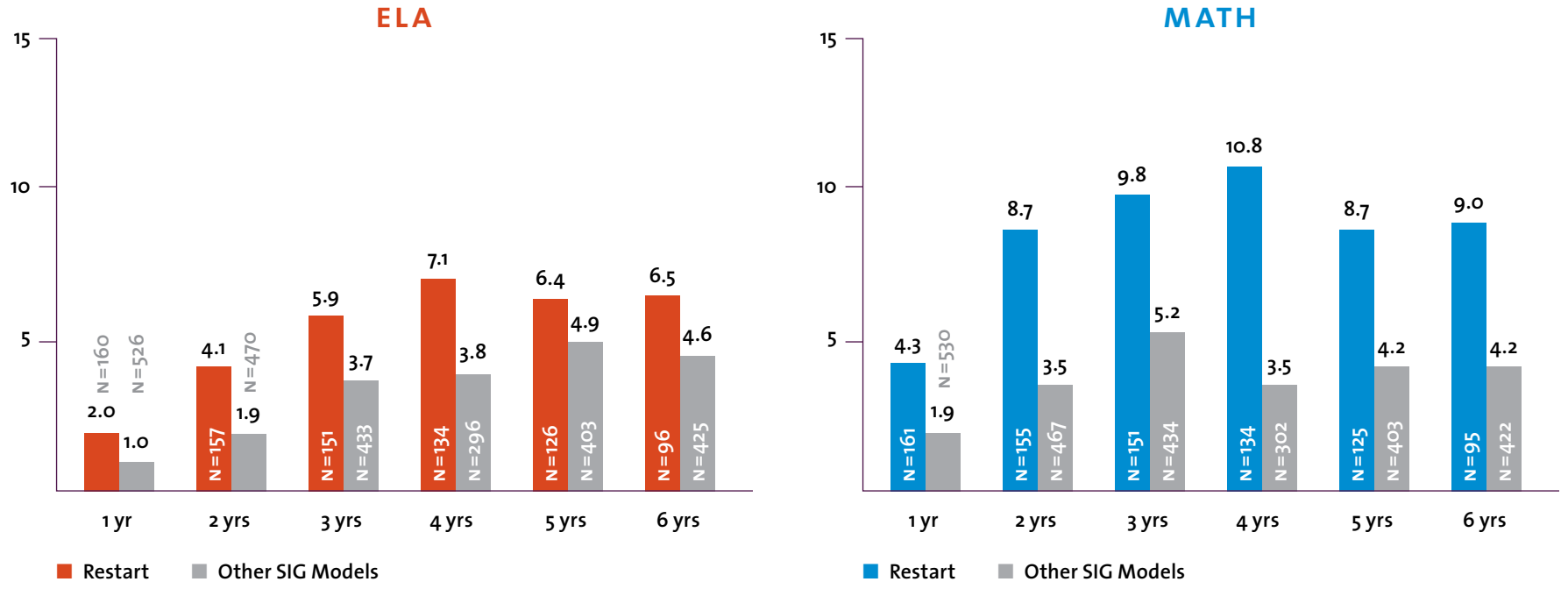


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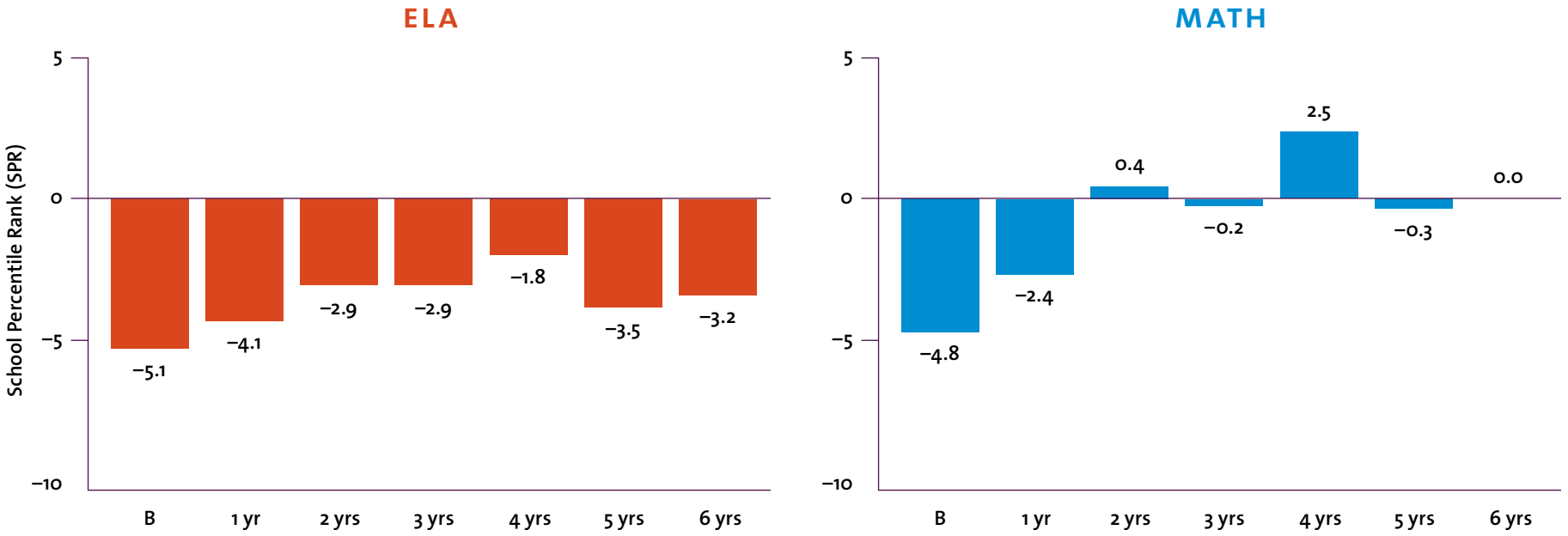
Figure 11. Year-Over-Year Gap in SPR, Restarts v. SIG over Six Years



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TAKEAWAYS

Four takeaways stand out from this study.

Takeaway 1: Restarts Positively Affected School Performance

Our analysis finds that, on average, restarts have a positive and statistically significant impact on both ELA and math after six years as measured by change in SPR. Those gains were larger than the average gains their surrounding districts made over six years, suggesting that local environmental effects such as increases in funding over time, implementation of a more actionable accountability system, or new city-wide talent systems were not driving restart gains. Moreover, restarts made larger average gains than SIG turnaround and transformation schools—the two most widely used improvement methods during the study period.

Takeaway 2: Restarts Made Largest Gains in First Years After Implementation

On average, restarts made their largest SPR gains in ELA in the first three years after restarting and their largest gains in math in the first two years. Gains slowed after that, with school performance actually declining on average in the fifth year after restarting. These results suggest that the first three years provide a reasonable window for gauging restart success. If schools fail to make substantial gains in the first three years of a restart, it is unlikely that they ever will. Of the schools that had negative or no math gains by year 3, only 14% of schools were able to catch up and at least meet the average math restart gains by year 6. For ELA, no schools were able to catch up.

Takeaway 3: Despite These Gains, Restarts Remained Generally Low-Performing

After six years, restarted schools' average SPR in ELA increased from 7.1 to 13.6, while increasing from 8.2 to 17.2 in math. In other words, the average restart still performed in the bottom quintile.

Takeaway 4: Top Restarts and SIG Schools Offer Reason for Optimism

On average, top-quartile restarts made three to four times more growth by year 5 than the average restart, causing schools to jump to the 26th and 34th percentiles in ELA and math, respectively. Top-quartile SIG turnaround and transformation schools made similarly large gains, suggesting a large opportunity for success if school leaders implement these strategies well. At this point, however, the data do not indicate what distinguishes top performers to support better implementation.

CONCLUSION

Despite the gains restarts seem to produce, our research makes clear that they are not a silver bullet. To better identify and replicate the practices that increase the likelihood of a success, the field needs more research into why restarts seem to outperform other intervention methods, and what sets top-quartile restarts and other SIG schools apart from their peers.

Moreover, this study reminds us that we must consider school improvement efforts within the context of the broader education landscape. Especially as more operators run schools in a city and the lines between district and charter blur, we must not only ask how strategy A compares to strategy B, but also how those efforts affect one another—and student learning—throughout a city.

APPENDIX A. SUMMARY OF RESTART RESEARCH

AUTHORS	FOCUS	SUMMARY OF FINDINGS
Stratos, Wolford, & Reitano (2015)	Philadelphia's Renaissance Schools Initiative	**Positive impact.** Charter restarts experienced more rapid growth than district-run restarts, particularly by year three.
Zimmer, Henry, & Kho (2017)	Tennessee's Achievement School District (ASD)	**No or negative impact.** Restarts had no statistically significant effect on student achievement, although cohort-by-cohort analysis revealed possible negative effects.
Abdulkadiroğlu, Angrist, Hull & Pathak (2016)	11 charter restarts in New Orleans, 1 in Boston	**Positive impact.** Restarts were more effective than other less-aggressive improvement efforts, leading to average student yearly gains in math and ELA of 0.21 and 0.14 standard deviations (SDs), respectively.
Bross, Harris, & Liu (2016)	15 charter restarts in New Orleans, 2 in Baton Rouge	**Impact mixed.** Restarts led to student gains in New Orleans (up to more than 0.3 SDs) but not Baton Rouge.
Dee (2012)	Analysis of SIG schools in California	**No impact.** Analysis of SIG schools in California found restarts had no significant impact after one year. In contrast, the analysis found turnaround model had a positive, significant impact.
Dragoset, et al. (2017)	Analysis of SIG schools nationwide	**No impact.** Found no significant impacts on math or reading test scores, high school graduations, or college enrollment resulting from any SIG model, including restarts.
Redding and Nguyen (2020)	Meta-analysis of 35 studies of school turnaround	**Positive impact.** Restarts, along with school transformation and school turnaround approaches, showed significant improvements in student assessment results.

Citations for Prior Restart Research

Abdulkadiroğlu, A., Angrist, J. D., Hull, P. D., & Pathak, P. A. (2016). Charters without lotteries: Testing takeovers in New Orleans and Boston. *American Economic Review*, *106*(7), 1878–1920. Retrieved from **https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.20150479**

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APPENDIX B. SUMMARY TABLES

Table 1. Change in SPR, All Restarts vs. All Restarts Excluding Closures

		ELA		Math	
	Year	All Restart	Restarts Excluding Closures	All Restart	Restarts Excluding Closures
Change from Baseline SPR . . .	Year 1	+2.0 (N = 160)	+2.7 (N = 146)	+4.3 (N = 161)	+4.8 (N = 147)
	Year 2	+4.1* (N = 157)	+4.5 (N = 143)	+8.7 (N = 155)	+9.1 (N = 141)
	Year 3	+5.9 (N = 151)	+6.4 (N = 142)	+9.8 (N = 151)	+10.0 (N = 142)
	Year 4	+7.1 (N = 134)	+7.8 (N = 130)	+10.8 (N = 134)	+11.5 (N = 130)
	Year 5	+6.4 (N = 126)	+7.2 (N = 124)	+8.7 (N = 125)	+9.1 (N = 123)
	Year 6	+6.5 (N = 96)	+7.8 (N = 94)	+9.0* (N = 95)	+10.1 (N = 93)

Table 2. Change in SPR, All Restarts vs. Traditional District Schools

		ELA			Math		
	Year	Restart	District	Difference (Restart–District)	Restart	District	Difference (Restart–District)
Change from Baseline SPR . . .	Year 1	+2.0 (N = 160)	+0.3 (N=3,069)	+1.6	+4.3* (N = 161)	+0.2 (N=3,058)	+4.1
	Year 2	+4.1* (N = 157)	+0.4 (N=3,007)	+3.7	+8.7* (N = 155)	0.0 (N=2,989)	+8.8*
	Year 3	+5.9* (N = 151)	+0.4 (N=2,933)	+5.4	+9.8* (N = 151)	+0.3 (N=2,914)	+9.5*
	Year 4	+7.1* (N = 134)	+0.6 (N=2,672)	+6.4	+10.8* (N = 134)	+0.2 (N=2,661)	+10.5*
	Year 5	+6.4* (N = 126)	+1.2 (N=2,547)	+5.3	+8.7* (N = 125)	+0.5 (N=2,520)	+8.2*
	Year 6	+6.5* (N = 96)	+1.3 (N=2,306)	+5.2	+9.0* (N = 95)	+0.8 (N=2,279)	+8.2*

*p<0.05 **Note:** Difference may not equal value in restart column minus value in district column due to rounding

Table 3. Change in SPR, All Restarts vs. Other SIG Models

		ELA			Math		
	Year	Restart	Other SIG Models	Difference (Restart – SIG)	Restart	Other SIG Models	Difference (Restart – SIG)
Change from Baseline SPR . . .	Year 1	+2.0 (N = 160)	+1.0 (N = 526)	+1.0	+4.3* (N = 161)	+1.9* (N = 530)	+2.4*
	Year 2	+4.1* (N = 157)	+1.9* (N = 470)	+2.2*	+8.7* (N = 155)	+3.5* (N = 467)	+5.2*
	Year 3	+5.9* (N = 151)	+3.7* (N = 433)	+2.2*	+9.8* (N = 151)	+5.2* (N = 434)	+4.6*
	Year 4	+7.1* (N = 134)	+3.8* (N = 296)	+3.3*	+10.8* (N = 134)	+3.5* (N = 302)	+7.3*
	Year 5	+6.4* (N = 126)	+4.9* (N = 403)	+1.5	+8.7* (N = 125)	+4.2* (N = 403)	+4.5*
	Year 6	+6.5* (N = 96)	+4.6* (N = 425)	+1.9	+9.0* (N = 95)	+4.2* (N = 422)	+4.8*

*p<0.05 **Note:** Difference may not equal value in restart column minus value in district column due to rounding

APPENDIX C. CUMULATIVE SPR GAINS FOR RESTARTS BY STARTING YEAR

Figure 12. Cumulative change in ELA SPR from baseline. Restarts that began in 2010–11

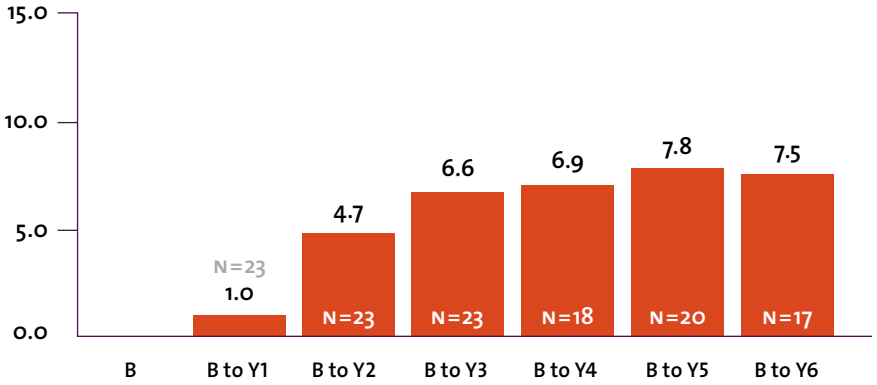


Figure 13. Cumulative change in ELA SPR from baseline. Restarts that began in 2011–12

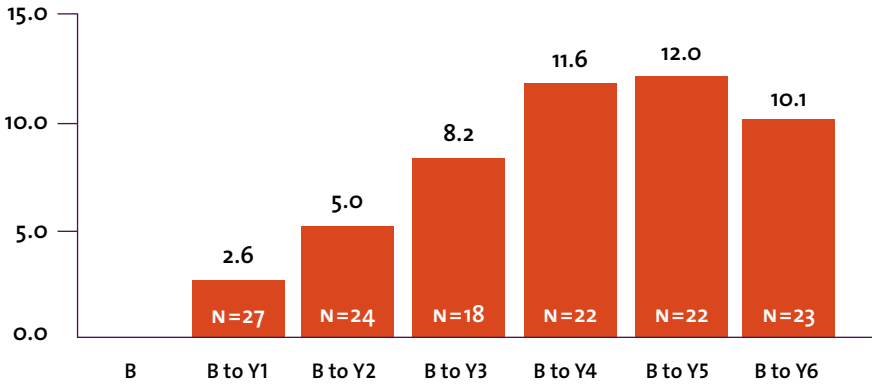


Figure 14. Cumulative change in ELA SPR from baseline. Restarts that began in 2012–13

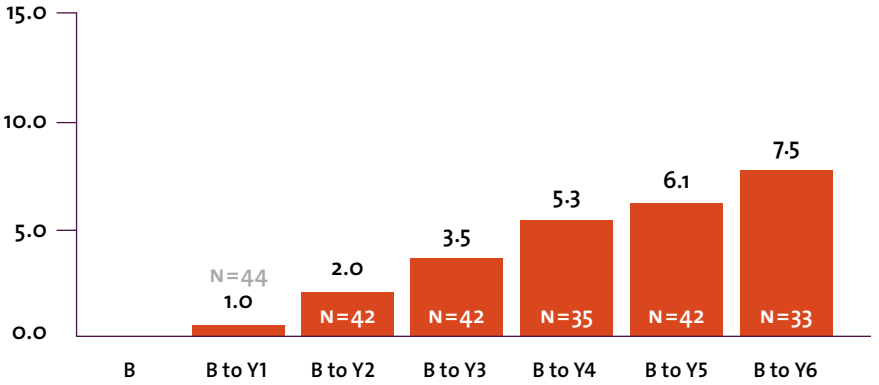


Figure 15. Cumulative change in ELA SPR from baseline. Restarts that began in 2013–14

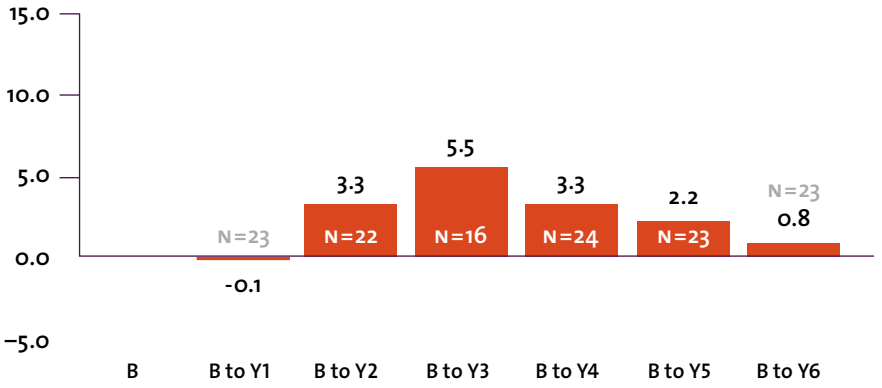


Figure 16. Cumulative change in ELA SPR from baseline. Restarts that began in 2014–15

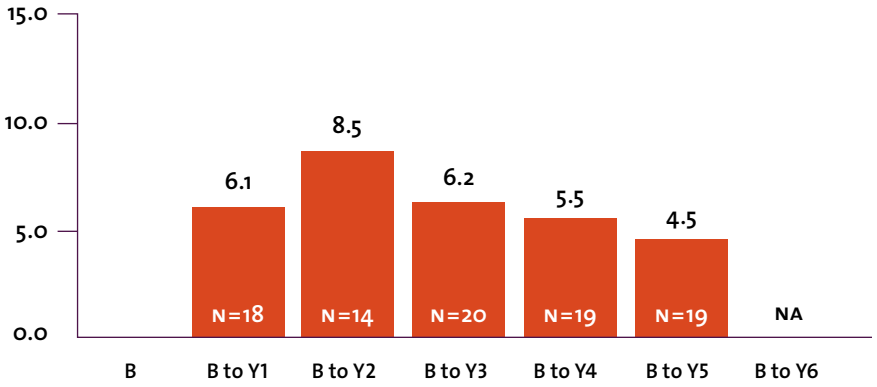


Figure 17. Cumulative change in ELA SPR from baseline. Restarts that began in 2015–16

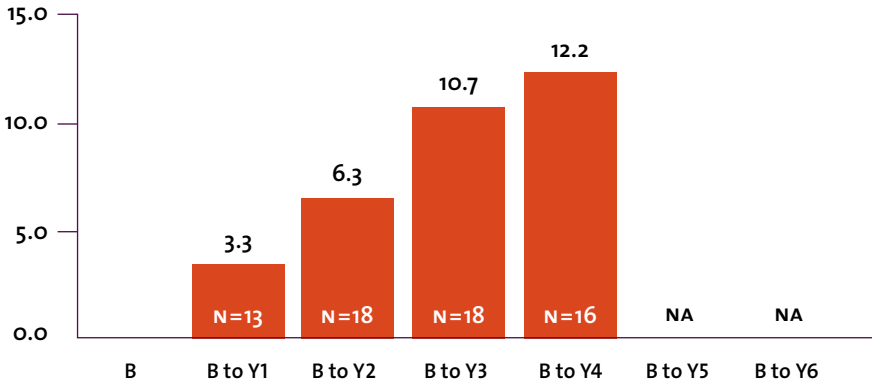


Figure 18. Cumulative change in ELA SPR from baseline. Restarts that began in 2016–17

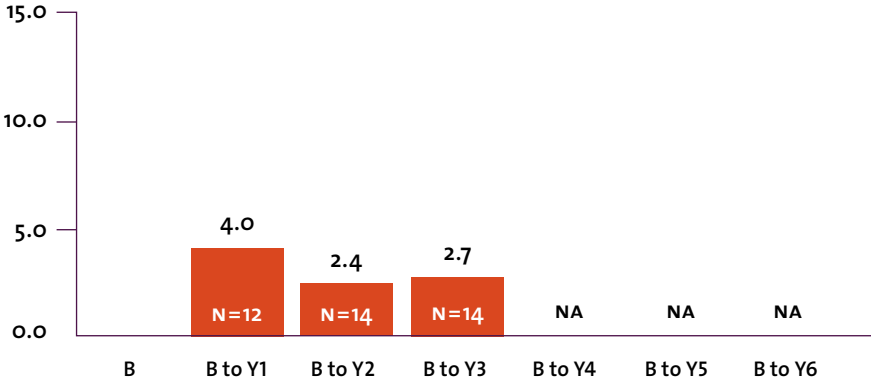


Figure 19. Cumulative change in Math SPR from baseline. Restarts that began in 2010–11

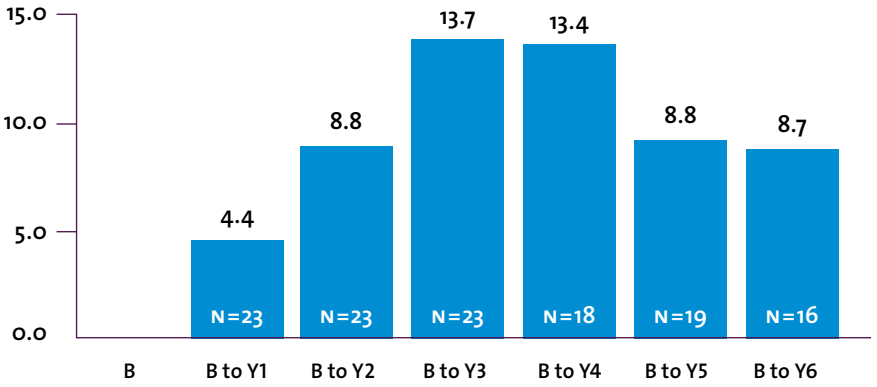


Figure 20. Cumulative change in Math SPR from baseline. Restarts that began in 2011–12

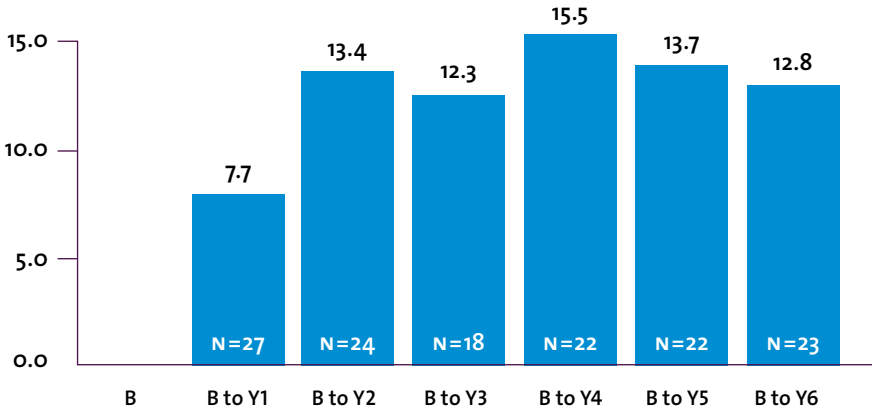


Figure 21. Cumulative change in Math SPR from baseline. Restarts that began in 2012–13

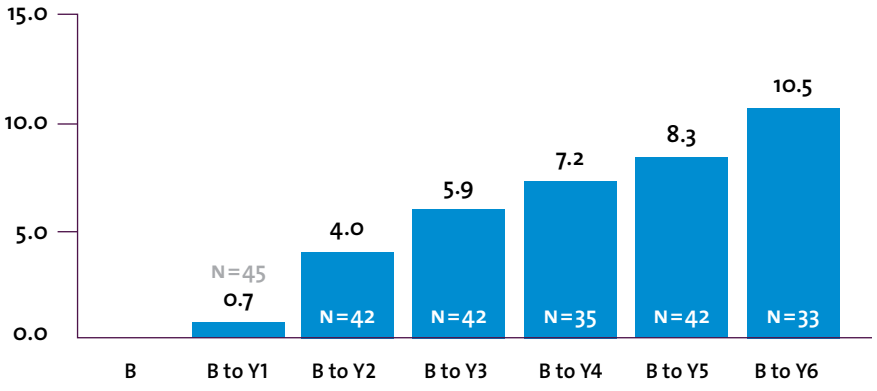


Figure 22. Cumulative change in Math SPR from baseline. Restarts that began in 2013–14

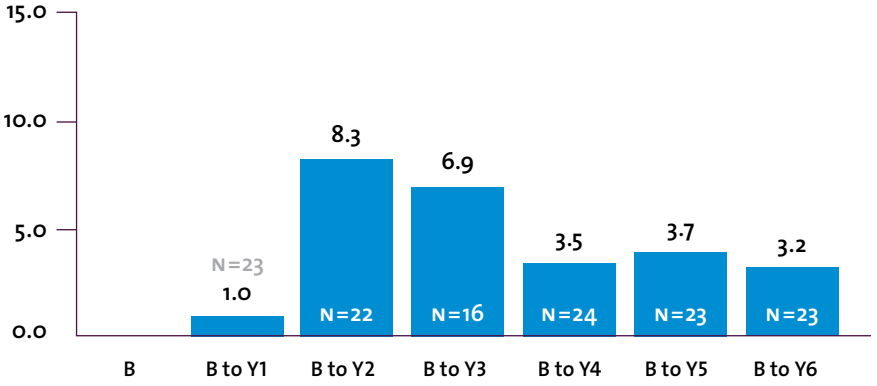


Figure 23. Cumulative change in Math SPR from baseline. Restarts that began in 2014–15

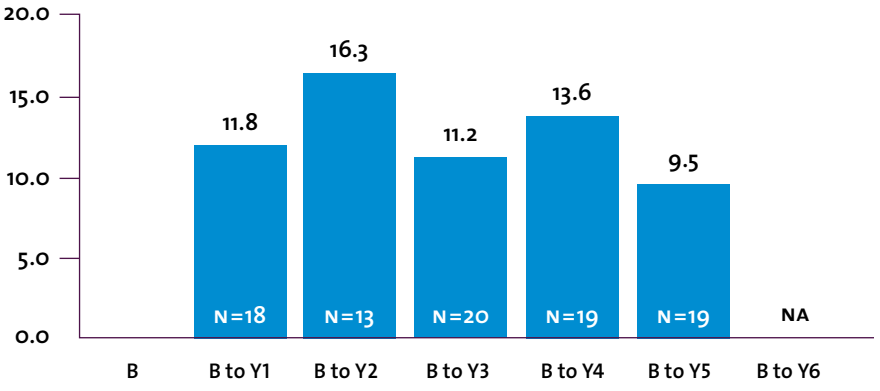


Figure 24. Cumulative change in Math SPR from baseline. Restarts that began in 2015–16

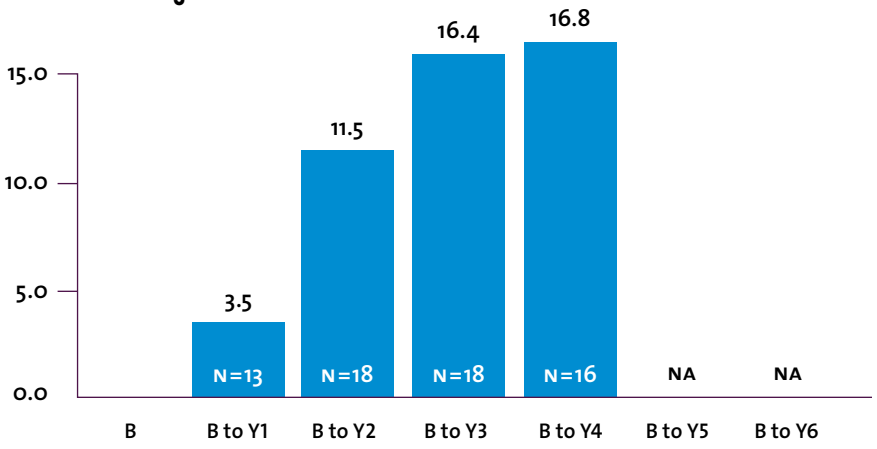
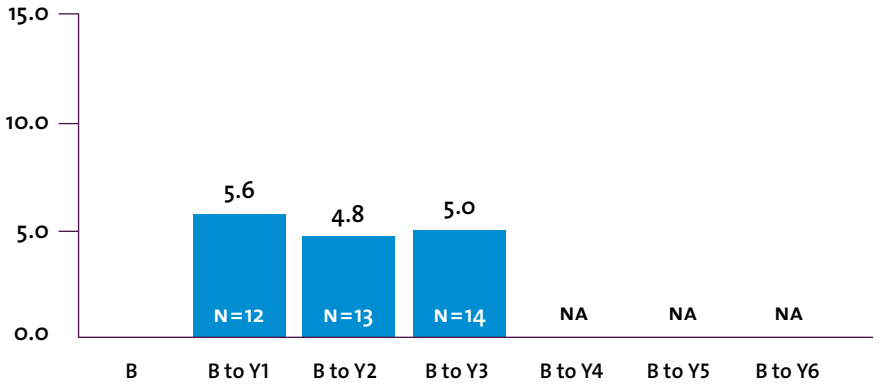


Figure 25. Cumulative change in Math SPR from baseline. Restarts that began in 2016–17



APPENDIX D. HOW THESE CITY-LEVEL RESULTS COMPARE TO PREVIOUS STUDIES

CITY	PREVIOUS RESEARCH	THIS ANALYSIS
Philadelphia	**Positive impact.** Charter restarts within the city's Renaissance Schools initiative experienced more rapid growth than district-run restarts, particularly by year three.	**Positive, but not significant.** Philadelphia restarts demonstrated more growth than other public schools in the district over the study period. The difference in SPR growth was not statistically significant, however.
Tennessee	**No or negative impact.** Memphis and Nashville restarts within the state's Achievement School District had no statistically significant effect on student achievement, although cohort-by-cohort analysis revealed possible negative effects.	**Positive, but not significant.** Memphis restarts demonstrated more growth than other public schools in the district over the study period. The difference in SPR growth was not statistically significant, however. (Note: Analysis did not include Nashville because there were fewer than 5 restarts)
New Orleans	**Positive impact.** ■ Restarts were more effective than other less-aggressive improvement efforts, leading to average student yearly gains in math and ELA of 0.21 and 0.14 standard deviations (SDs), respectively. ■ Restarts led to student gains in New Orleans (up to more than 0.3 SDs)	**Positive, but not significant.** New Orleans restarts demonstrated more growth than other public schools in the parish over the study period. The difference in SPR growth was not statistically significant, however.

APPENDIX E. ENROLLMENT IN RESTARTED SCHOOLS

To evaluate whether the demographics of restarted schools changed significantly after restart, we reviewed enrollment data for each of six student subgroups: Black, Hispanic or Latino, white, low-income/free and reduced-price lunch (FRL), English language learners (ELL), and special education students (SPED). We downloaded publicly available school-level enrollment and demographic data files from SEA websites for all years where baseline and post-restart enrollment was available (between 2009–10 and 2015–16) and compared subgroup percentages in the year prior to the restart (baseline) to the first and third years of post-restart enrollment.

Subgroup enrollment data could not be collected or evaluated for all of the restarts included in the study due to a range of issues with state reporting systems:

- Some states did not report enrollment for all subgroups for all years (for example, Louisiana does not report ELL enrollment in statewide enrollment data files).
- All states suppress student subgroup enrollment data for groups with small numbers of students.
- In New Jersey and Illinois, enrollment for charter schools was reported at the network level (for example, KIPP NJ Schools) for many of the years included in the study, so school-level data were not available.
- Schools that split into two or more schools at restart were not included in the enrollment analysis.
- In some instances, subgroup enrollment numbers fluctuate dramatically (for example, FRL numbers went dramatically down and back up in consecutive years). Follow-up with operators and authorizers suggests that there are inaccuracies in some state charter school student reporting systems, or periodic changes to process for reporting student subgroups.

Black, Hispanic or Latino, white, and FRL enrollment data were collected for over three-quarters of restarts with baseline to year 1 performance data. Collection of ELL and SPED enrollment data was limited to 57% and 72% of schools in the first year of restart.

Using available data, we found little or no change in average overall student population for all student groups evaluated. Enrollment data for restarts in year 3 was more limited (see table below) but also showed little change in student populations. The average percentage of students with each subgroup generally varied from the baseline by no more than 1 percentage point; no subgroup's average percentage varied from the baseline by more than 3 points.

Changes in enrollment from baseline to Year 1 and Year 3

		Baseline to Year 1 (160 schools with SPR)		Baseline to Year 3 (151 schools with SPR)	
Subgroup	**Average Baseline Enrollment**	**Schools with Enrollment Data**	**Average Change from Baseline**	**Schools with Enrollment Data**	**Average Change from Baseline**
Total Enrollment*	536 students	160 (100%)	-7.5%	121 (80%)	+1.1%
Black	76%	137 (86%)	-1%	97 (64%)	-1%
Hispanic or Latino	21%	124 (78%)	0%	90 (60%)	+1%
White	3%	122 (76%)	0%	88 (58%)	0%
FRL	88%	134 (84%)	0%	92 (61%)	-3%
ELL	13%	91 (57%)	0%	53 (35%)	-1%
SPED	16%	115 (72%)	-1%	79 (52%)	0%

*Total baseline enrollment of all restart schools with available data was 95,947 students (in 179 schools).

Notes

1. See for example: Smarick, A. (2010, winter). The turnaround fallacy. *Education Next*. *10*(1). Retrieved from **https://www.educationnext.org/the-turnaround-fallacy/**; Hassel, B., & Steiner, L. (2003, December). *Starting fresh: A new strategy for responding to chronically low performing schools*. Chapel Hill, NC: Public Impact. Retrieved from **https://publicimpact.com/images/stories/publicimpact/documents/startingfresh.pdf**

2. See for example: Barnum, M. (2019, February 5). Five things we've learned from a decade of research on school closures. *Chalkbeat*. Retrieved from **https://www.chalkbeat.org/2019/2/5/21106706/five-things-we-ve-learned-from-a-decade-of-research-on-school-closures**

3. Hassel & Steiner, *Starting Fresh*.

4. A cohort-by-cohort analysis of Tennessee's Achievement School District was the only one finding possible negative effects. Zimmer, R., Henry, G. T., & Kho, A. (2017). The effects of school turnaround in Tennessee's achievement school district and innovation zones. *Educational Evaluation and Policy Analysis*, *39*(4), 670–696. Retrieved from **https://files.eric.ed.gov/fulltext/EJ1158183.pdf**

5. Of the 208 restarts we identified, 160 had baseline performance data and at least one year of post-restart performance data in ELA. The same was true of 161 schools with respect to math. Only those schools are included in the analysis that follows.

6. Data available for Years 7, 8 and 9 for some schools, but excluded from these findings because the N-size was less than 75.

7. Of the 208 restarts we identified, 160 had baseline performance data and at least one year of post-restart performance data in ELA. The same was true of 161 schools with respect to math. Only those schools are included in the analysis that follows.

8. In some cases, a single low-performing school restarted as more than one school. In the dataset, 208 restarted schools originated from 197 low-performing schools.

9. State-managed includes 17 schools that Louisiana's Recovery School District directly managed for a time.

10. See for example: Barnum, M. (2019, February 5). Five things we've learned from a decade of research on school closures. *Chalkbeat*. Retrieved from **https://www.chalkbeat.org/2019/2/5/21106706/five-things-we-ve-learned-from-a-decade-of-research-on-school-closures**

11. Analysis for "All Restarts" includes Top-Quartile Restarts. N=29 for "Top-Quartile Restarts." N=125 for "All Restarts" in ELA and N=126 for "All Restarts" in math. Analysis focuses on results through Year 5 to maintain an N >25 for both groups.

12. Cities are: Baltimore, Baton Rouge, Camden, Chicago, Denver, Detroit, Indianapolis, Los Angeles, Memphis, New Orleans, Newark, Philadelphia, and Washington, D.C. Analysis includes all district and charter schools within the district boundaries. Restarts are excluded from the district sample, including pre-restart years if a district school.

13. Our results were mostly consistent with previous studies. See Appendix C. We focus on a three-year time frame rather than five or six because the number of restarts in study districts drops off substantially after three years.

14. Our analysis focuses on the 14 states where more than one restart operated before 2016–17: California, Colorado, Connecticut, Georgia, Illinois, Indiana, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, New Jersey, New York, and Washington, D.C.