

CLIMBING THE COLLEGE LADDER? THE EFFECTS OF THE NEW ORLEANS SCHOOL REFORMS ON THE QUALITY AND FIT OF COLLEGES THAT STUDENTS ATTENDED



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Overview

In prior ERA-New Orleans research, we found that the city's school reforms increased college entry and graduation rates by 8-15 percentage points and 3-5 points, respectively. However, some colleges have more resources and more selective admissions than others, and therefore researchers tend to consider them "higher quality." Research suggests that students who attend these colleges are more likely to graduate and see higher salaries later in life.

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In this study, we examine whether the reforms' effects on college entry have been sustained, whether they affected the quality of colleges that students attended—based on per pupil spending, selectivity, standardized test scores, and student-faculty ratios—and whether college persistence rates have changed. Though these measures are far from the only or most important ways to measure college quality, they are useful and common metrics. Our key conclusions are:

- The initial post-Katrina increase in college entry, especially for students attending 4-year colleges, has been sustained through 2016.
- Overall, New Orleans students were more likely to attend higher quality colleges in 2016 versus 2004. In 2016, students attended colleges with higher average standardized test scores and higher faculty salaries, but more students per faculty member, than in 2004.
- College persistence rates for freshmen in 2016 remained roughly the same as in 2004.

Overall, these results reinforce the conclusion that the New Orleans school reforms improved a wide variety of student outcomes, and these improvements persisted a decade after the reforms started. While there were concerns that students were being pushed into colleges they were not academically prepared for, we find that the percent of students who were academically well-matched for their college increased. Nevertheless, there is still much progress to be made, as only around 1 in 8 New Orleans high school seniors in 2009 had graduated from college by 2014. This reinforces the need for policymakers to consider the wide variety of factors that affect student attendance and success in college.

Background

After Hurricane Katrina, the New Orleans school system underwent a vast and unparalleled transformation. Almost all traditional public schools in the district were turned into charter schools, which are privately operated but publicly funded and subject to accountability standards laid out in performance contracts. This transformation had a significant impact on student educational outcomes. [Previous research from ERA-New Orleans](#) found that the reforms had increased college entry by 8-15 percentage points, college persistence by 4-7 points, and college graduation by 3-5 points through 2014.

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In addition to the school reforms, recent years have brought significant changes to Louisiana’s higher education system. In 2012-2013, Louisiana began requiring high schoolers to take the ACT. Tuition at Louisiana public colleges more than doubled from 2004 to 2016 (after adjusting for inflation). Nationwide, there has also been a push to increase college access for disadvantaged students. As a result, there has been a 17 percentage point increase in the percent of undergraduates that are non-White nationally and an eight percentage point increase in the number of undergraduates that come from low-income families. Our analysis is designed to account for these statewide and national trends so that we can isolate the effects of the school reforms.

In this study, we update previous research on the New Orleans school reforms’ effects on college enrollment and persistence. We then add another element: whether there was improvement in the quality of colleges that students attended. This study’s main research questions are:

- Have the reforms continued to impact college entry rates in recent years?
- Did the reforms impact the quality of 4-year colleges that students attended?
- Did the reforms impact college persistence or transfers?

How did we carry out the analysis?

We estimate the effects of the reforms on New Orleans students’ college entry rates for both 2- and 4-year colleges using a method called “difference-in-differences.” This method, commonly used by researchers to analyze public policy, allows us to determine how much the reforms contributed to changes in the the college entry rate for New Orleans students. Specifically,

we compare changes among New Orleans students, who experienced the reforms, to changes among other Louisiana students from the same time period. For example, the comparison group for examining the reforms' effects on 4-year college entry includes students from schools in other Louisiana districts that were affected by Hurricane Katrina and that had pre-reform 4-year college entry rates similar to New Orleans' schools. With this method, we also adjust for student characteristics that differ between schools such as race, income, or special education status.

We then examine the changes in the quality of colleges that New Orleans students attended post-reform. Assessing whether a college is "high quality" is a complex task, as college quality is subjective. Different students have different desires and needs, and a great college for one student would not necessarily be a good fit for another. No measure of college quality can capture all the elements that make a college a good fit for a particular student.

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Keeping these limitations in mind, we measure college quality using an index developed by previous researchers based on four college characteristics: acceptance rate, average freshman standardized test scores (ACT/SAT), student-faculty ratio, and average faculty salary. Using this index, we place all nonprofit 4-year colleges in the United States into four quality tiers, each containing roughly the same number of schools, with Tier 1 considered the highest quality. Once the quality tiers have been determined for each college, we use the difference-in-differences method described above to determine how the reforms affected the quality of colleges that New Orleans students attended. For this analysis, we focus only on Louisiana colleges, as our data in the pre-reform years is limited to in-state schools. While our analysis does not include all colleges that New Orleans students attended, 87% of Louisiana's 2016 high school graduates who attended some college went to these in-state nonprofit 4-year colleges.

We use two additional measures to analyze the reforms' effects on the quality of colleges that New Orleans students attended. We examine selectivity rankings from Barron's *Profiles of American Colleges*, based on the competitiveness of admission. We analyze "social mobility" using measures created by other researchers, looking specifically at the share of students at a given college who move from the bottom 20% of household income to the top 20% throughout their lives.

In addition to analyzing changes in college quality, we examine the reforms' effects on New Orleans students' academic fit and college persistence. We measure academic fit by comparing a student's standardized test score to the average freshman standardized test score at their college. Specifically, we look at whether students' scores fall within the 25th and 75th percentile range of their college's average score. We use two measures of college persistence, looking at whether first-time freshmen stayed at *any* college for two consecutive semesters (allowing for transfers) and whether they stayed at their *first* college (no transfers) for two consecutive semesters. Measuring persistence beyond freshmen year, however, is complicated by the fact that we cannot measure multiple years of college attendance before Hurricane Katrina made landfall. We estimate the effects of the reforms on academic fit and college persistence using the difference-in-differences method.

We use data from the Louisiana Department of Education (LDOE) for 2000-01 through 2015-16 records on high school students, including student demographics and high school graduation dates. (Here and throughout the brief, we refer to a school year by the spring year, e.g., 2016 refers to the 2015-16 school year.) LDOE also provided records on college students from the Louisiana Board of Regents (BOR) and the National Student Clearinghouse (NSC). We use various combinations of these data sources in the technical report, though the results are very similar regardless of which we use. In this brief,

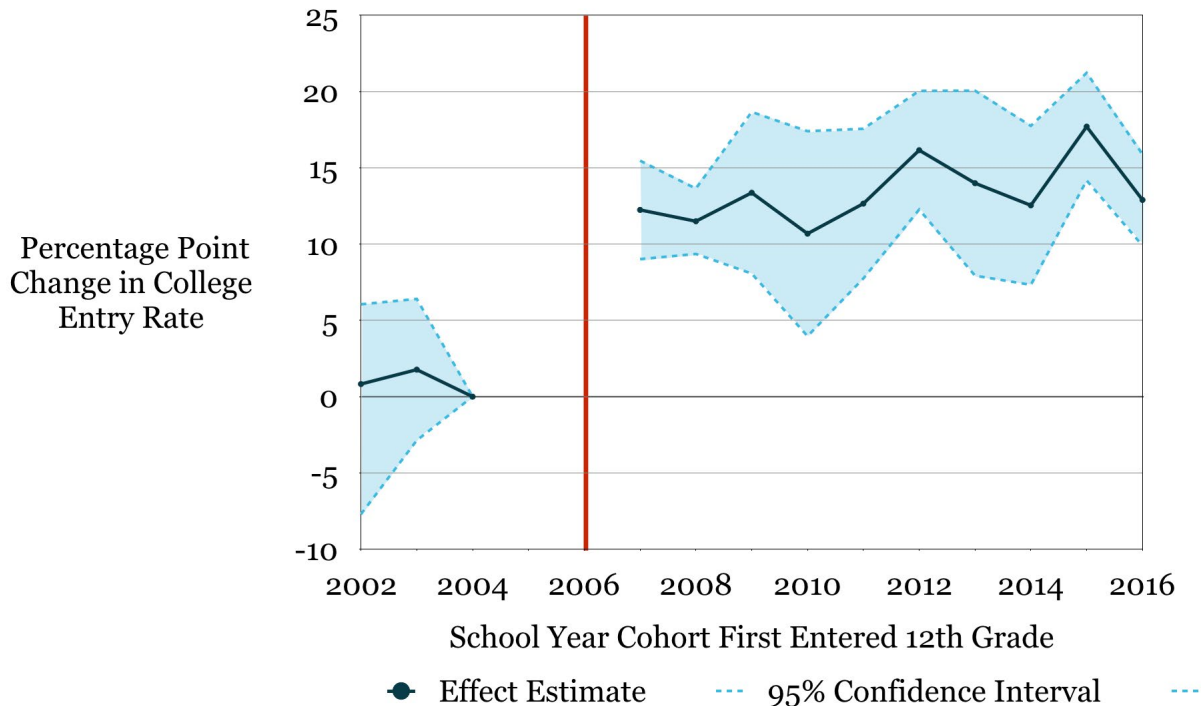
we focus on results that use 2001-2004 BOR and 2005-2016 NSC data. We also use data from the federal Integrated Post-Secondary Education Data System to determine college quality tiers. (See attached technical report for more detail.)

Have the reforms continued to impact college entry rates in recent years?

Previous research from ERA-New Orleans found that the post-Katrina school reforms increased the college entry rate by 8-15 percentage points, depending on the method of analysis used, but those data were limited to the high school seniors from 2014 and earlier.

For this analysis, we have access to data from two additional years, 2015 and 2016. We find that the results in recent years are very similar to those in previous years: the reforms increased the average student’s probability of attending a 4-year college immediately after high school graduation by around 12 percentage points (Figure 1). The reforms showed no effect on the probability of students attending a 2-year college (not shown).

Figure 1: The reforms increased the probability of students entering a 4-year college by around 12 percentage points.



Notes: Figure 1 provides estimates of the effects on 4-year college entry using a difference-in-differences analysis of BOR and NSC data by year. Year refers to the spring of the academic year. The vertical line at 2006 indicates that Hurricane Katrina made landfall during the 2005-06 school year.

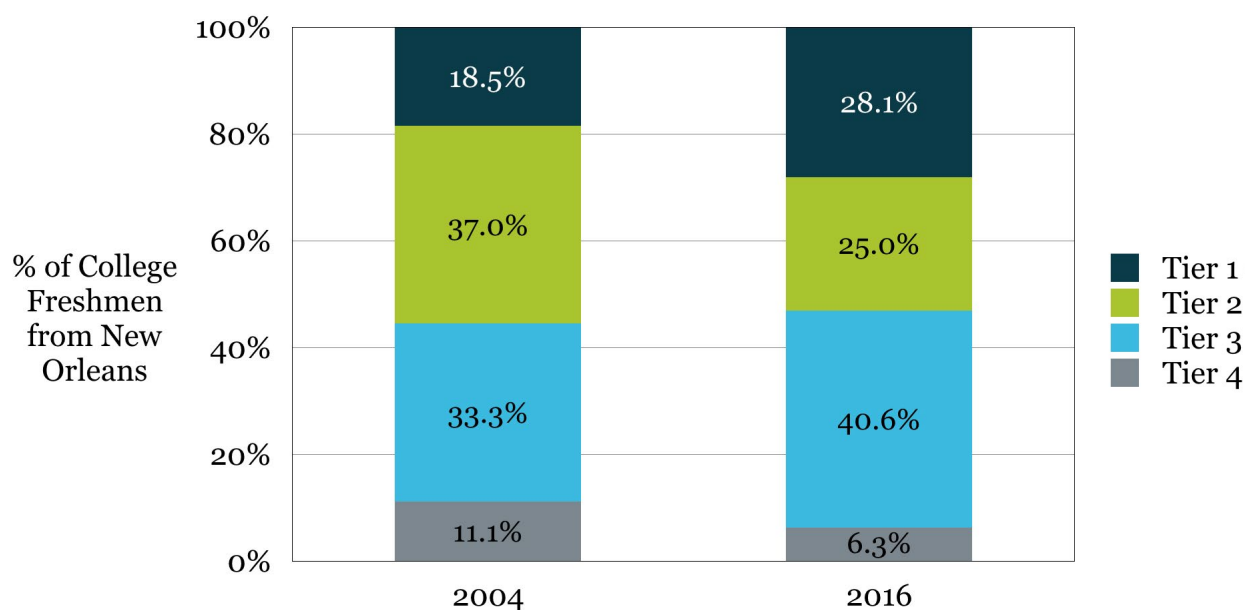
It is worth noting the sudden increase in the college-going rate in 2007. This can be partially explained by populations returning to the city after the hurricane at different times. Higher income populations, who are more likely to attend college, returned more quickly, which likely increased the rate at first. By 2010, however, the demographics of students attending publicly funded schools were very similar to the pre-Katrina period, so the effects we see in the more recent years reflect improvements in the schools. Also, the sudden jump might be due to changes in educators’ expectations for

students to attend college, leading them to encourage students to attend college and helping them with the application processes, for example. These types of changes could have occurred quickly. Whatever the explanation, the overall conclusion is the same as our prior study: the reforms helped more New Orleans students go to college.

Did the reforms impact the quality of 4-year colleges that students attended?

We find that the reforms increased the quality of colleges that students attended. Figure 2 shows that the share of New Orleans college students in Tier 1 schools increased between 2004 and 2016, and the share of students in the lowest tier decreased. The difference-in-differences estimate (not shown) reinforces that more recent New Orleans graduates were more likely to attend a Tier 1 or Tier 3 college.

Figure 2: Students from New Orleans were more likely to attend the highest quality colleges following the reforms.

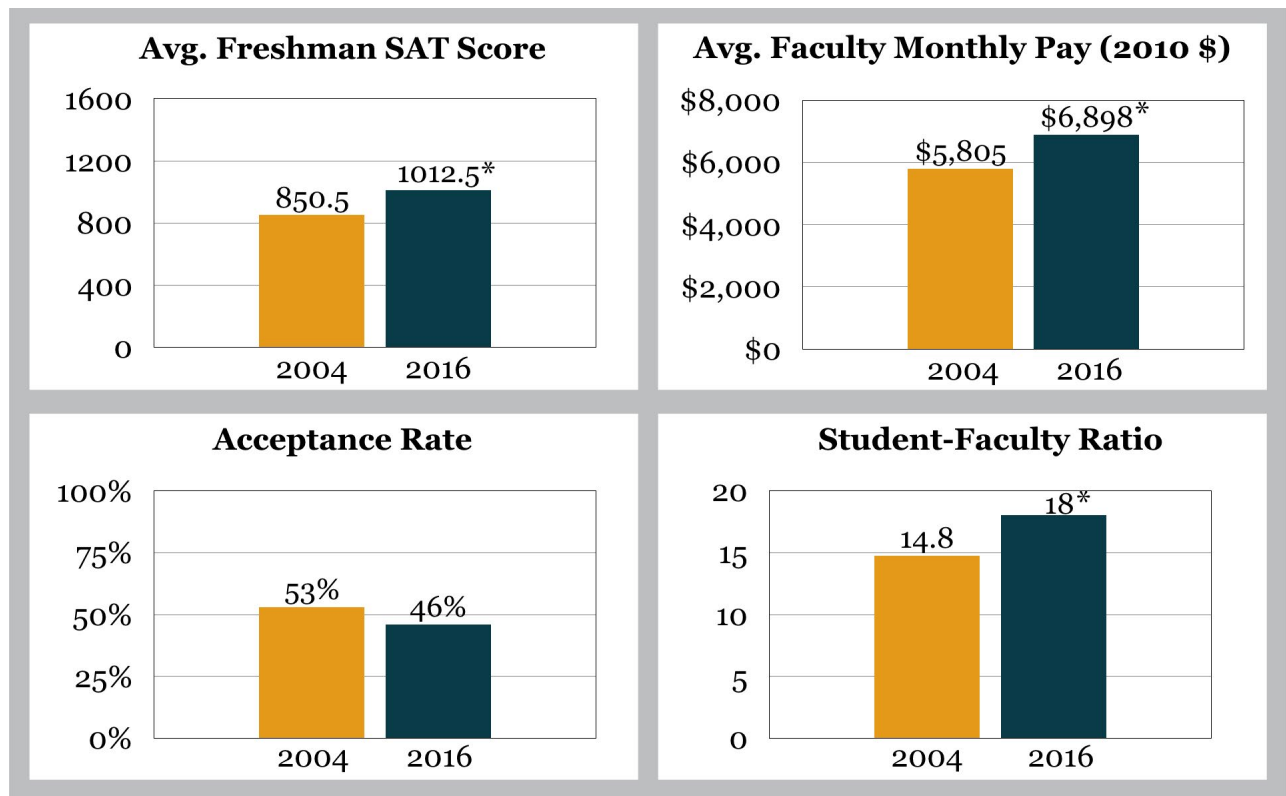


Notes: Figure 2 shows descriptive statistics on how the distribution of students attending colleges in different quality tiers changed from 2004 to 2016. Tier 1 is considered the highest quality.

When we examine changes on individual measures of college quality, we also see improvement on most measures. After the reforms, students attended colleges with higher average SAT scores for first-year students and higher average faculty monthly pay (Figure 3, next page). However, they also attended colleges with student-faculty ratios that were higher than before the storm, a signal of lower quality. This could be because some students attended larger colleges which tend to have higher student-teacher ratios. The results from our difference-in-differences analysis (not shown) suggest that these changes were driven by the reforms.

Students also became more likely to attend colleges where they were academically well-matched. Specifically, students were sixteen percentage points more likely to attend a college that was an academic match in 2016 versus 2004, a 35% increase. In addition, students became four percentage points more likely to attend colleges within the top three tiers of Barron's selectivity rankings, echoing the results above. There is some evidence that students became more likely to attend colleges that promote social mobility. However, these increases in social mobility are not statistically significant across all of our analyses.

Figure 3: The colleges that New Orleans students attended following the reforms had higher average freshman SAT scores and higher average faculty salaries, but also had higher student-faculty ratios.



Notes: Each bar reflects the average characteristics of 4-year colleges attended by New Orleans students in the respective years, as measured with 2010 data. We chose 2010 because it is in the middle of the time period we analyzed, though the results are similar across years. Asterisks indicate that the differences we see in these descriptive statistics were also statistically significant in the difference-in-differences analysis. The average SAT score does not include the writing portion of the test, so the maximum score is 1600. Data on faculty salary are monthly rather than yearly to account for faculty that are paid on a 9-month basis rather than a 12-month basis.

Did the reforms impact college persistence or transfers?

While entering college is an important first step toward career success, around 1 in 6 New Orleans students who started college in the fall of 2003 did not continue in the spring of 2004. Non-persistence may be influenced not only by academics but also by a college’s culture, extracurricular activities, location, affordability, diversity, faculty qualifications, and other aspects of fit. Since New Orleans students went to colleges with different characteristics after the reforms, persistence might have shifted.

We examine two related types of persistence: whether first-year students stayed for two consecutive semesters at their *first* college (no transfers) or at *any* college (allowing for transfers). We see no effects of the reforms on either measure. In the accompanying technical report, we also show results for persistence and transfer during students’ first two years at college. This analysis, similarly, shows no overall effect on persistence.

Conclusion

Attending college, particularly a higher quality college, can provide lasting advantages for students. We find that from 2007 through 2016, students not only attended college at higher rates due to the reforms, but also attended higher quality colleges and persisted during their first year at roughly the same rate. Additional research is needed to understand how the reforms helped generate these effects. Academic preparation was probably one factor underlying the increase in college quality. Around half of New Orleans charter schools have a “college prep” theme, so high schools may also be encouraging students to apply to more selective colleges and providing more support to students to make attending college a reality.

Attending a higher quality college may create a chain of positive benefits for the rest of a student’s life, including higher rates of employment and higher earnings, long after a student has finished their K-12 education. At the same time, students still face many other barriers to college access and success, including financial barriers. The post-Katrina reforms have shown some success, but there is still much more work to be done to ensure that all of the city’s students have the support they need to succeed in college and beyond.

How is this Research Related to Other ERA–New Orleans Studies?

This study continues previous research on the New Orleans school reforms and their effects on student outcomes and schools:

In *What Effect Did the New Orleans School Reforms Have on Student Achievement, High School Graduation, and College Outcomes?*, Douglas Harris and Matthew Larsen found that the post-Katrina reforms significantly increased student test scores, the high school graduation rate, and rates of college entry, persistence, and graduation.

In *Voices of New Orleans Youth: What Do the City’s Young People Think About Their Schools and Communities?*, Lindsay Bell Weixler, Douglas Harris, and Alica Gerry surveyed 3,807 students in 21 New Orleans schools. Eighty-five percent of students surveyed believed that they will get a college degree.

In *Is There Choice in School Choice?*, Paula Arce-Trigatti, Jane Arnold Lincove, Douglas Harris, and Huriya Jabbar found that half the charter schools in New Orleans in the 2015 school year had a “college prep” theme.

About the Education Research Alliance for New Orleans

The mission of the Education Research Alliance for New Orleans (ERA-New Orleans) is to produce rigorous, objective, and useful research to understand the post-Katrina school reforms and their long-term effects on all students. Based at Tulane University, ERA-New Orleans is a partnership between university-based researchers and a broad spectrum of local education groups. Our Advisory Board includes (in alphabetical order): the Louisiana Association of Educators, the Louisiana Association of Public Charter Schools, the Louisiana Federation of Teachers, the Louisiana Recovery School District, New Schools for New Orleans, NOLA Public Schools, Orleans Public Education Network, and the Urban League of Greater New Orleans. For more information, please visit the organization's website.

EducationResearchAllianceNOLA.org

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