

# Advanced Courses & Regents Exams in Middle School: Demographics of the Students Who Take Them & Their Schools

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# Background

- Follow up to IBO's 2013 report, produced at the request of the Alliance for Quality Education, on resources available at high schools. This report, also produced at the alliance's request, looks at students who took advanced courses and/or Regents exams in:
  - Schools serving grades 6 through 8 (265 schools)
  - 2012-2013 school year, during the Bloomberg Administration
- This report focuses on:
  - How frequently students took honors or accelerated courses in the core subjects: English, math, science, and social studies
  - How frequently eighth graders took Regents exams
  - Assignment of teachers to classes in art or music

# Executive Summary

- About 21 percent of middle school students took an advanced course.
- Roughly a quarter of eighth graders took a Regents exam.
- Compared with students who did not take either advanced course or a Regents exam, students who did were likely to be
  - Ineligible for subsidized lunch
  - Neither black nor Hispanic
  - Not an English Language Learner (ELL)
  - Not a student with disabilities (SWD)
- Most schools (roughly 80 percent) had at least one arts or music teacher.
- Schools most likely to have: students who took an advanced class; eighth graders who took a Regents exam; at least one arts or music teacher served
  - **lower** concentrations of black and Hispanic students or students eligible for free or reduced-price lunch
  - **higher** concentrations of high-achieving incoming students
  - **more** students (large schools)

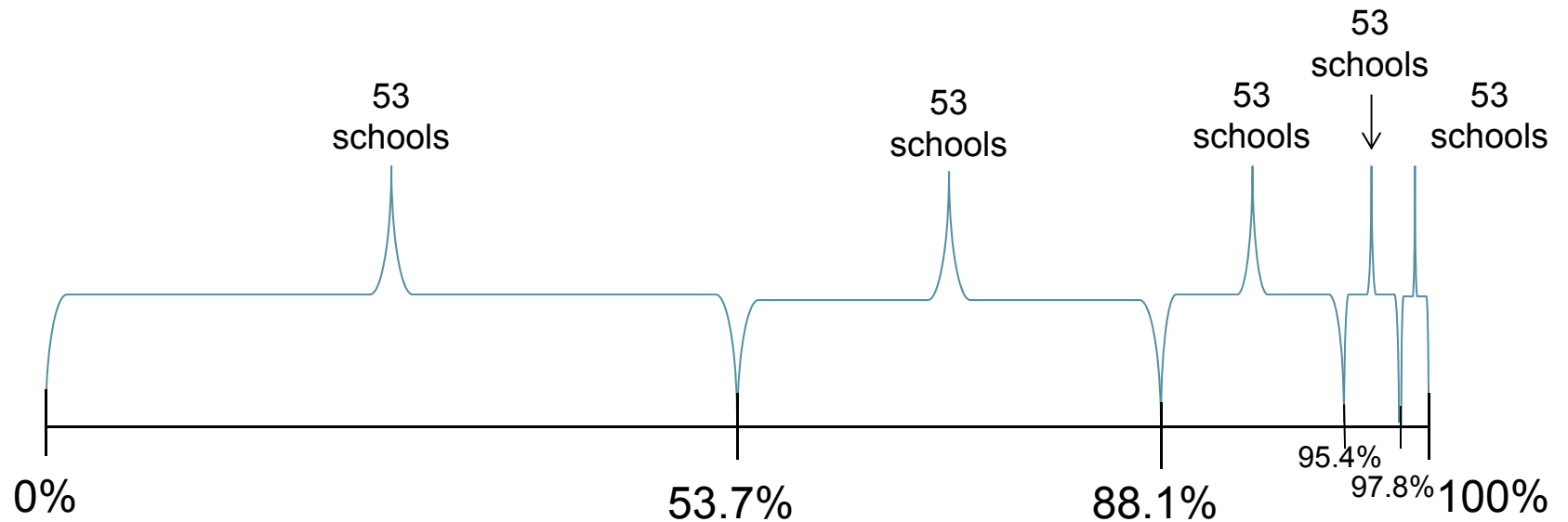


# CATEGORIZING STUDENT SUBGROUPS

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# Concentration of Black and Hispanic Students, 2012-2013

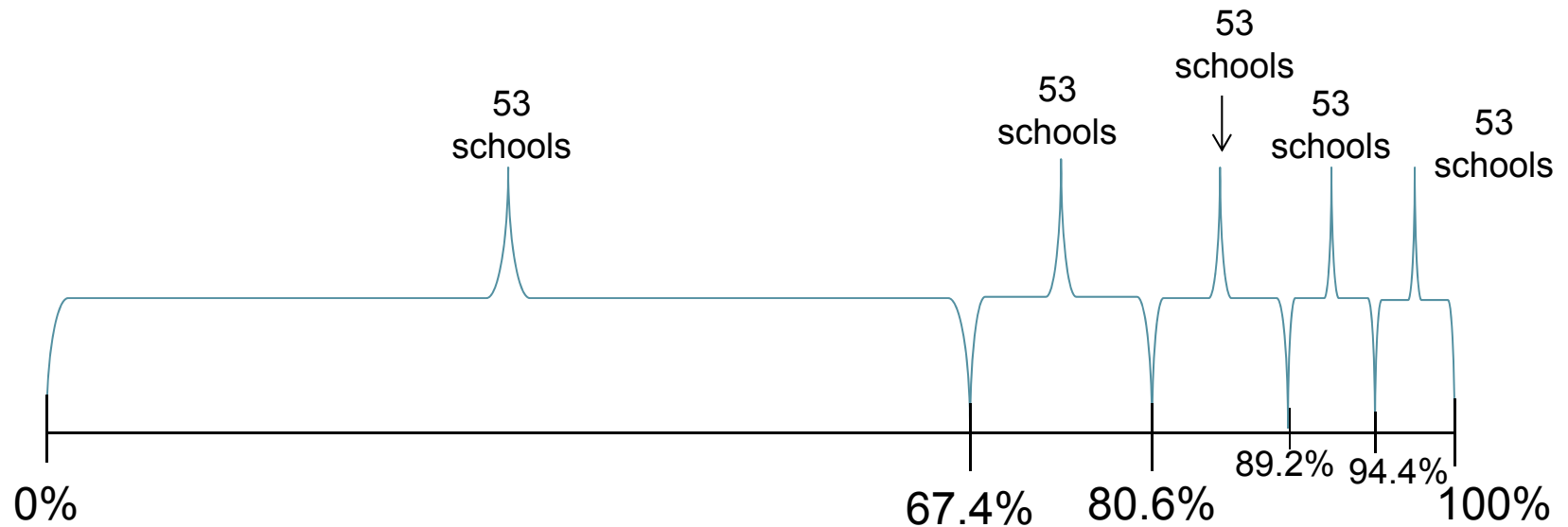
- Split schools into five evenly sized groups (Quintiles)



Percent of Black and Hispanic Students in a School

# Concentration of Students Eligible for Free or Reduced-Price Lunch, 2012-2013

- Split schools into five evenly sized groups (Quintiles)



Percent of Students Eligible for Free or Reduced-Price Lunch in a School

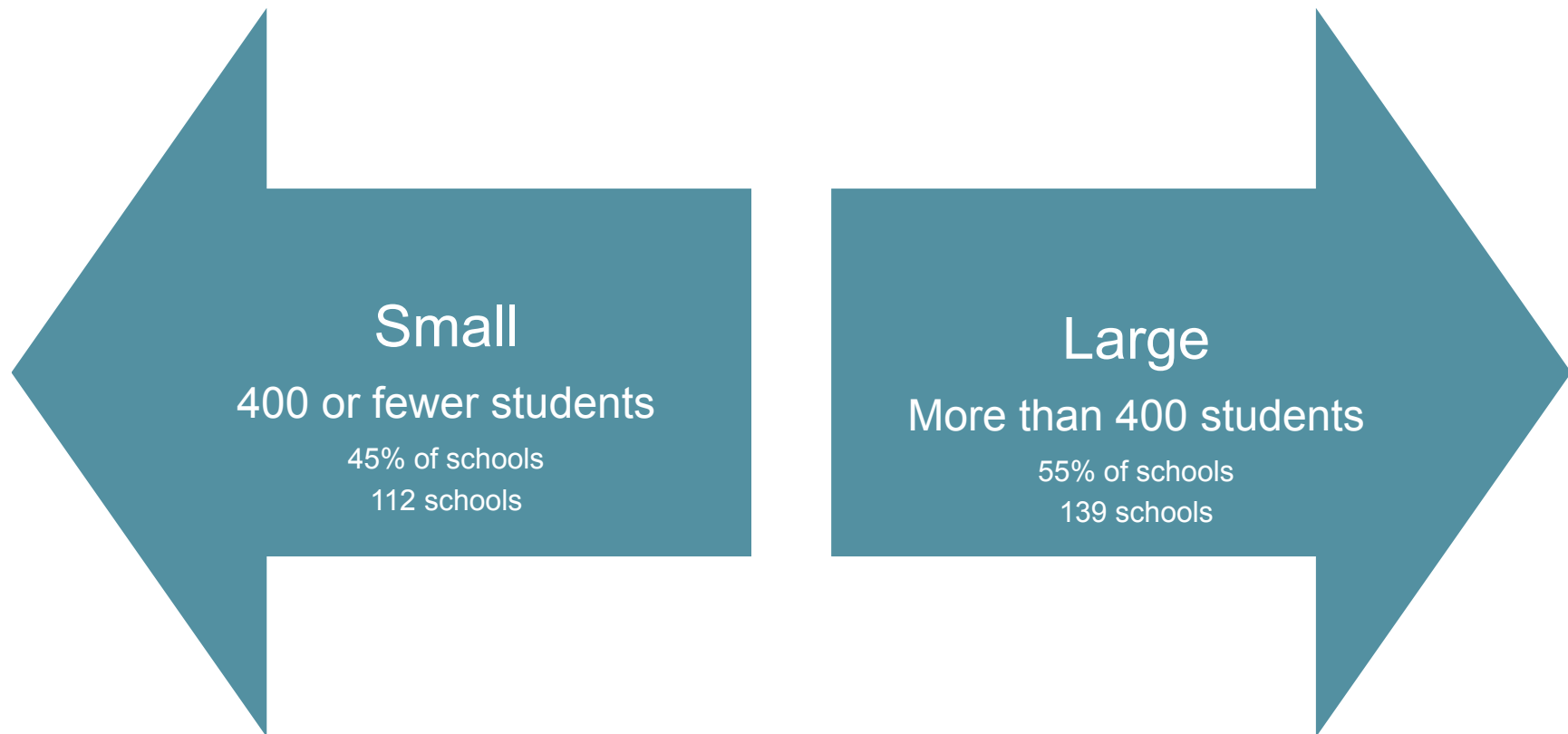


# CATEGORIZING MIDDLE SCHOOL SUBGROUPS

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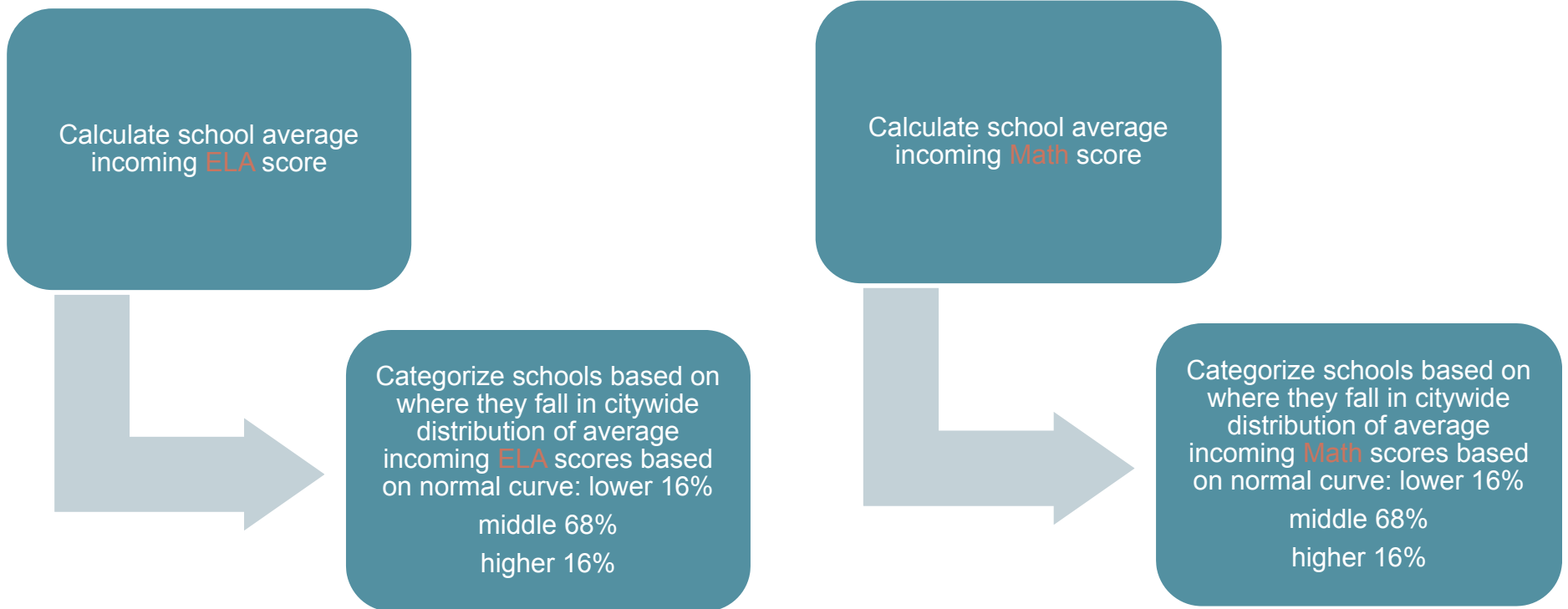
# School Size



NOTE: 14 schools phasing in are excluded from this portion of the analysis, leaving 251 middle schools

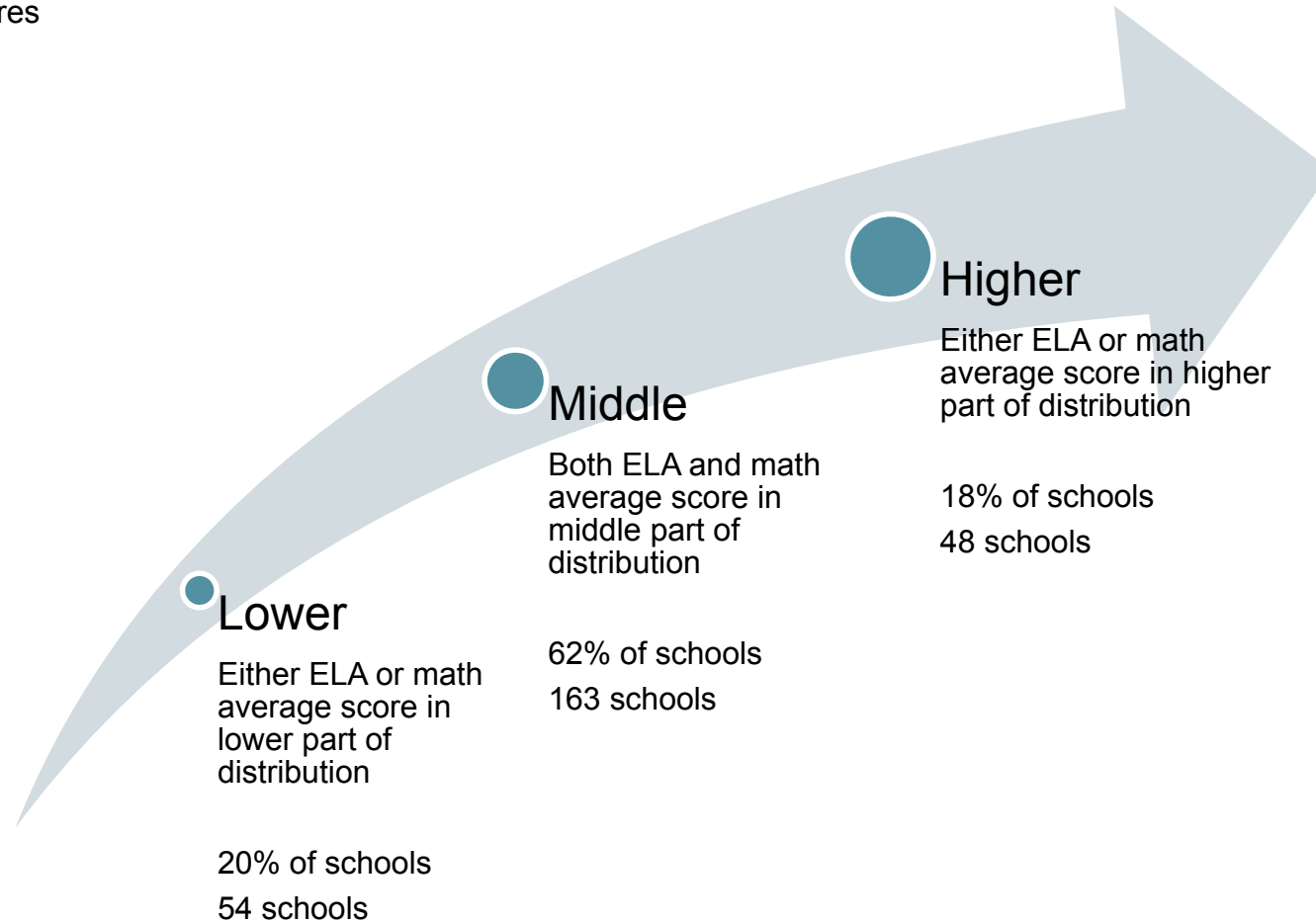
## Average Incoming Test Scores for 6<sup>th</sup> Grade Student

Step 1: Categorize schools based on the average fifth grade test score for sixth grade students in ELA and math separately



## Average Incoming Test Scores for 6<sup>th</sup> Grade Student

Step 2: Categorize schools into three groups based on where they fall on both distributions for average incoming ELA and Math scores





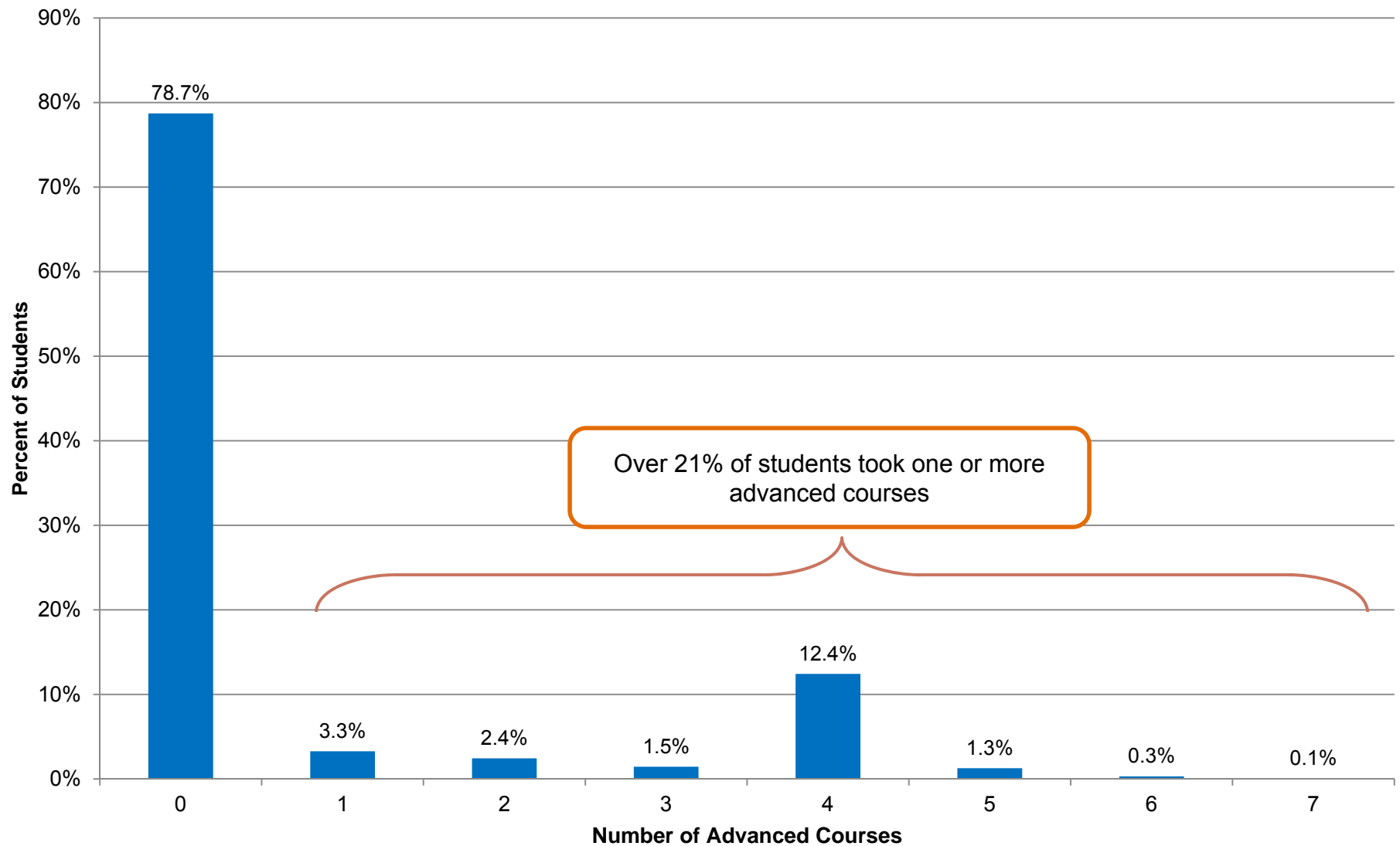
# STUDENTS TAKING ADVANCED COURSES OR A REGENTS EXAM

- Citywide
- By Subgroup

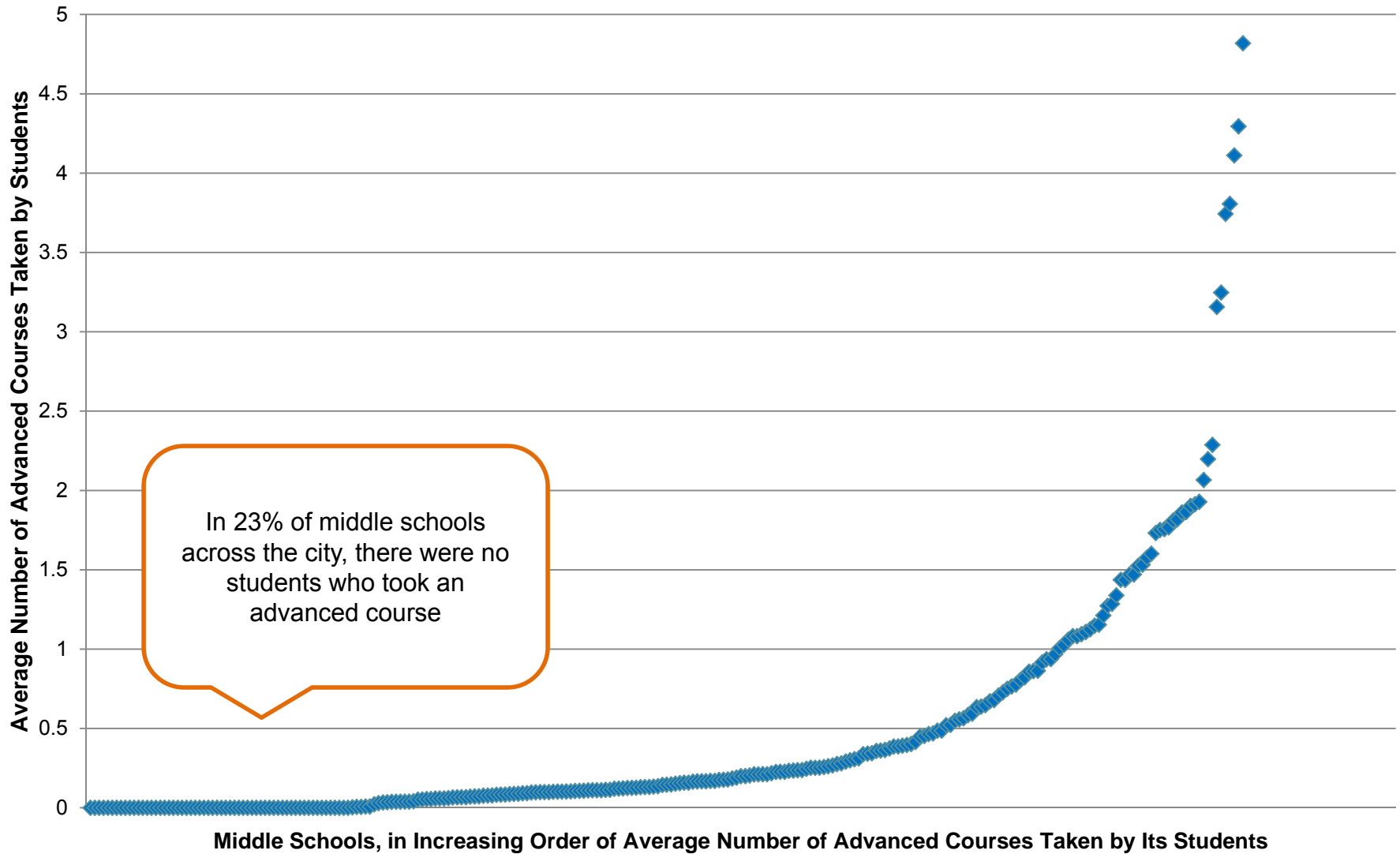
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NOTE: Because advanced courses are not uniformly identified across schools, this section focuses on courses taken, as opposed to courses offered.

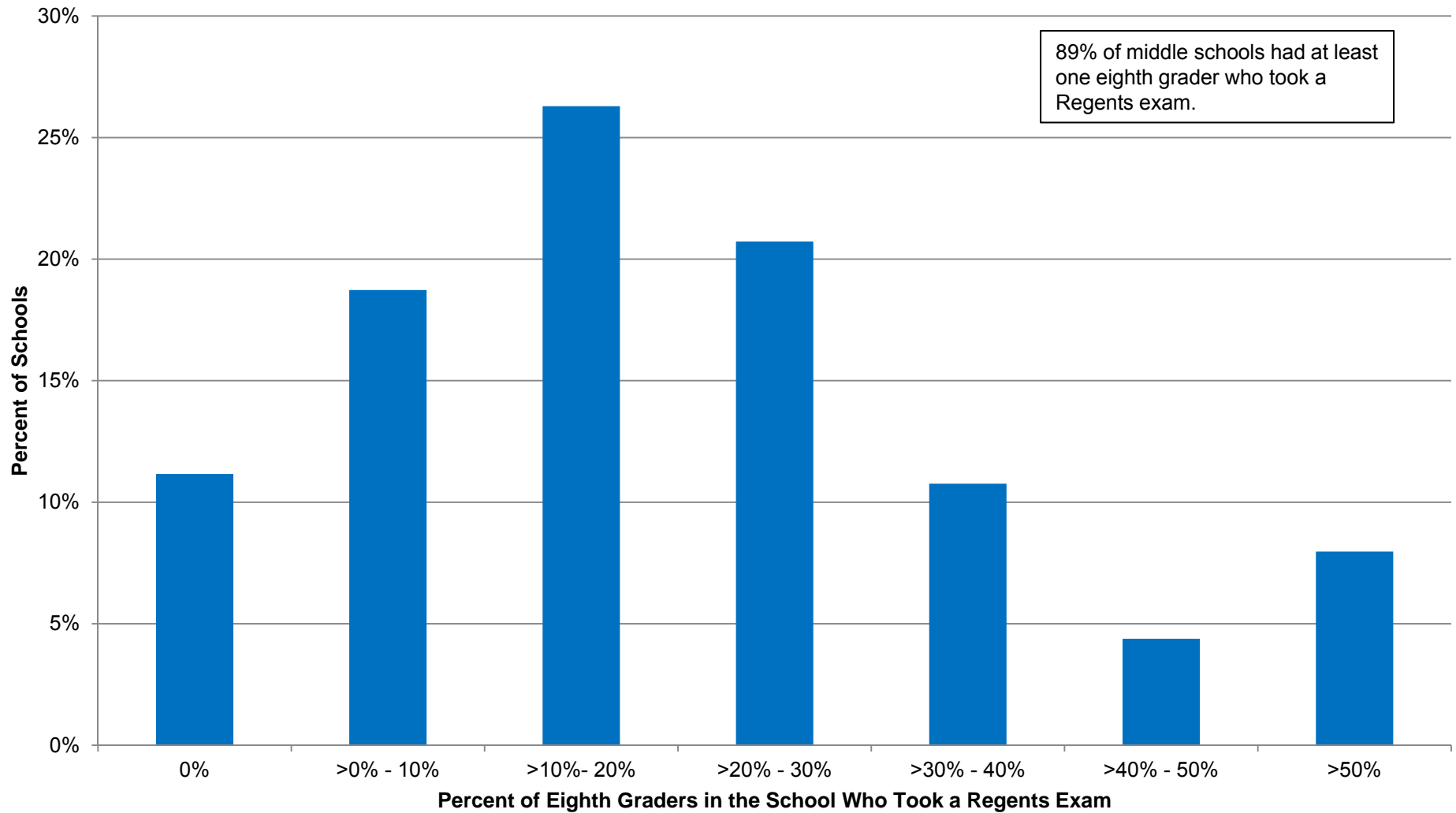
## Nearly 79 Percent of Middle School Students Did Not Take Any Advanced Course, 2012-2013



# Aggregating to the School Level, Students Took on Average Less Than Two Advanced Courses in 96 Percent of Middle Schools, 2012-2013

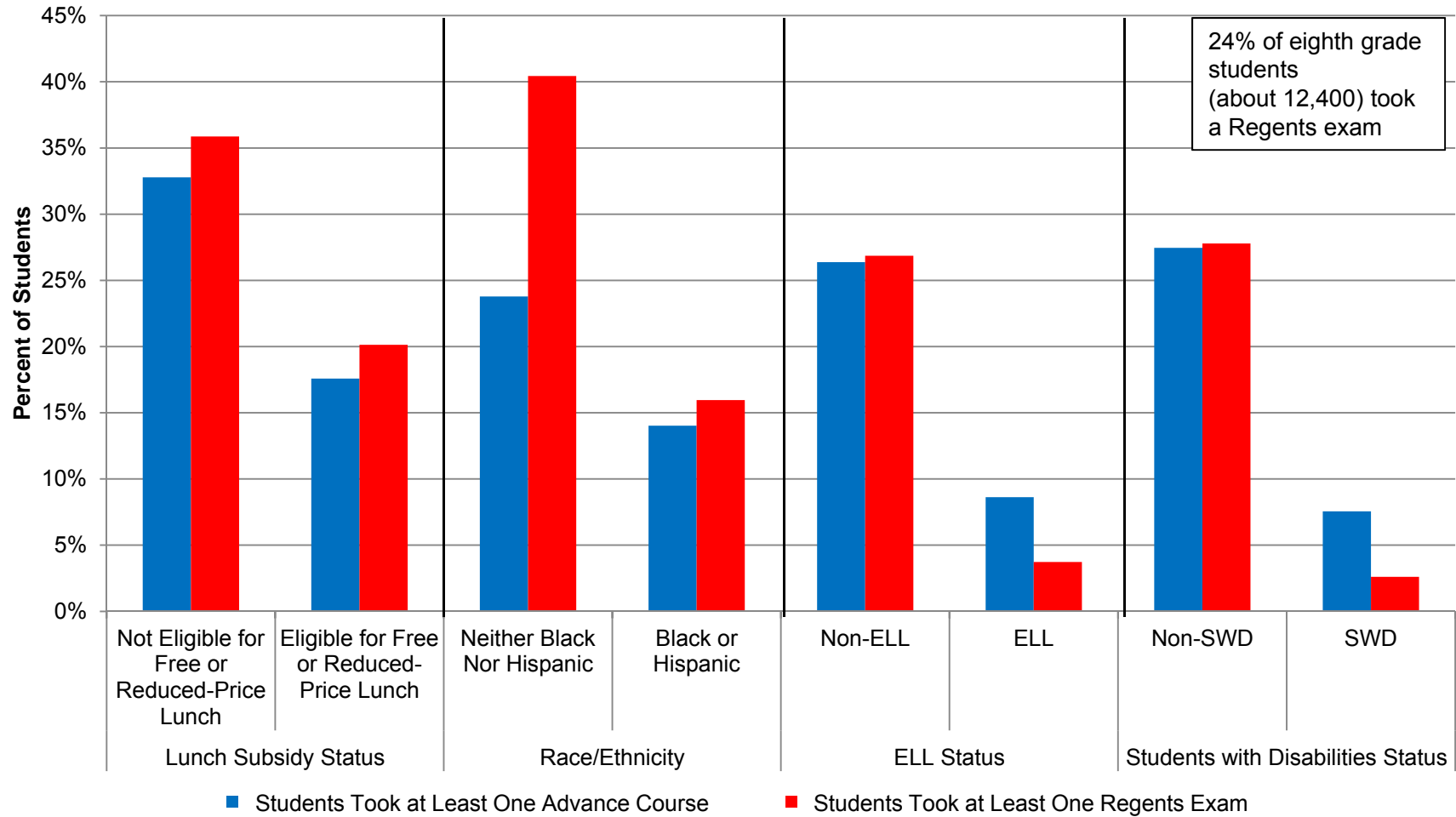


## In Roughly Three-Quarters of Schools, 30 Percent or Fewer Eighth Graders Took A Regents Exam, 2012-2013



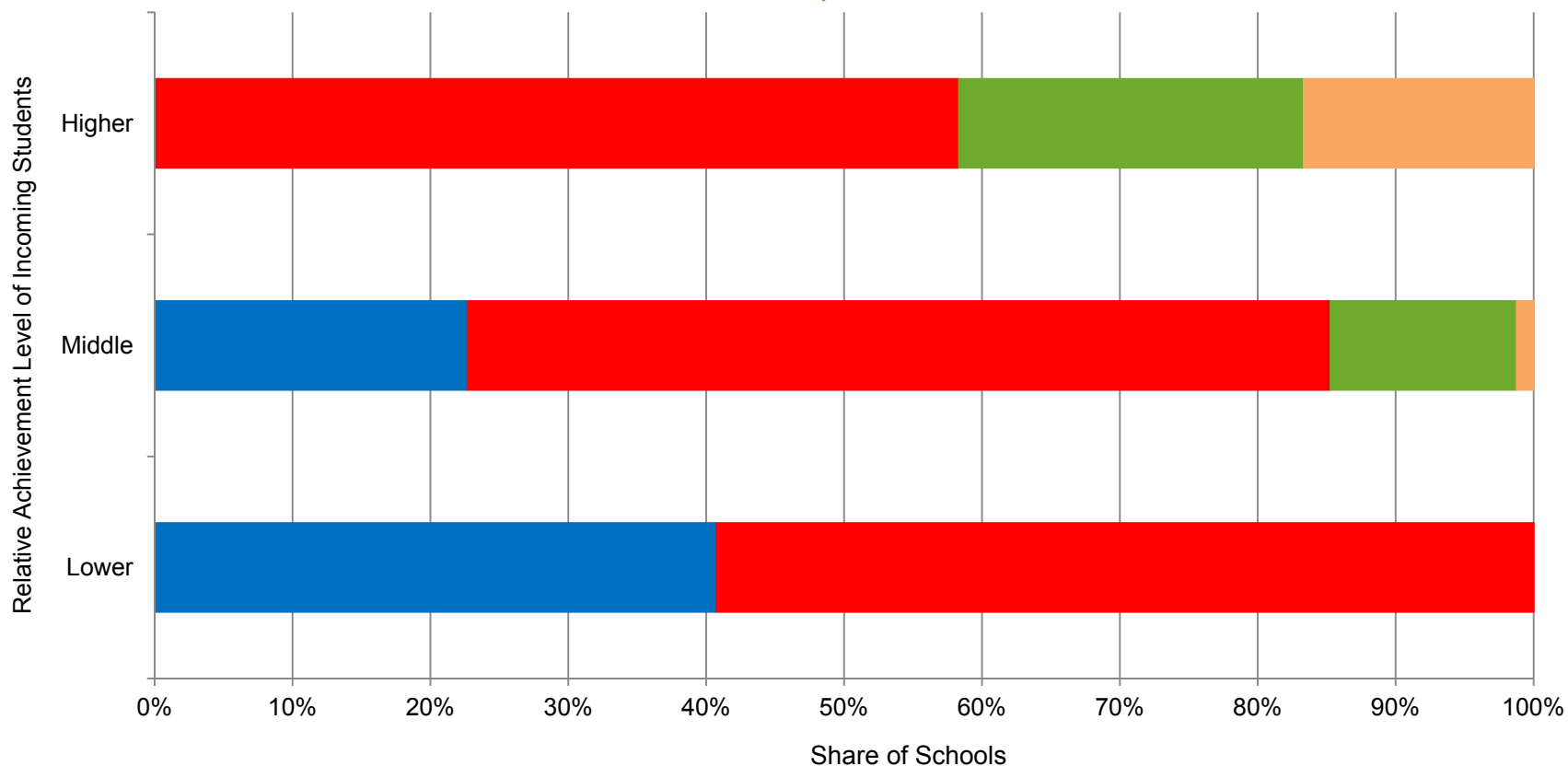
NOTE: 14 schools phasing in are excluded from this portion of the analysis because they do not serve eighth graders, leaving 251 middle schools

## Differences Among Students Who Take Advanced Courses and Regents Exams, 2012-2013





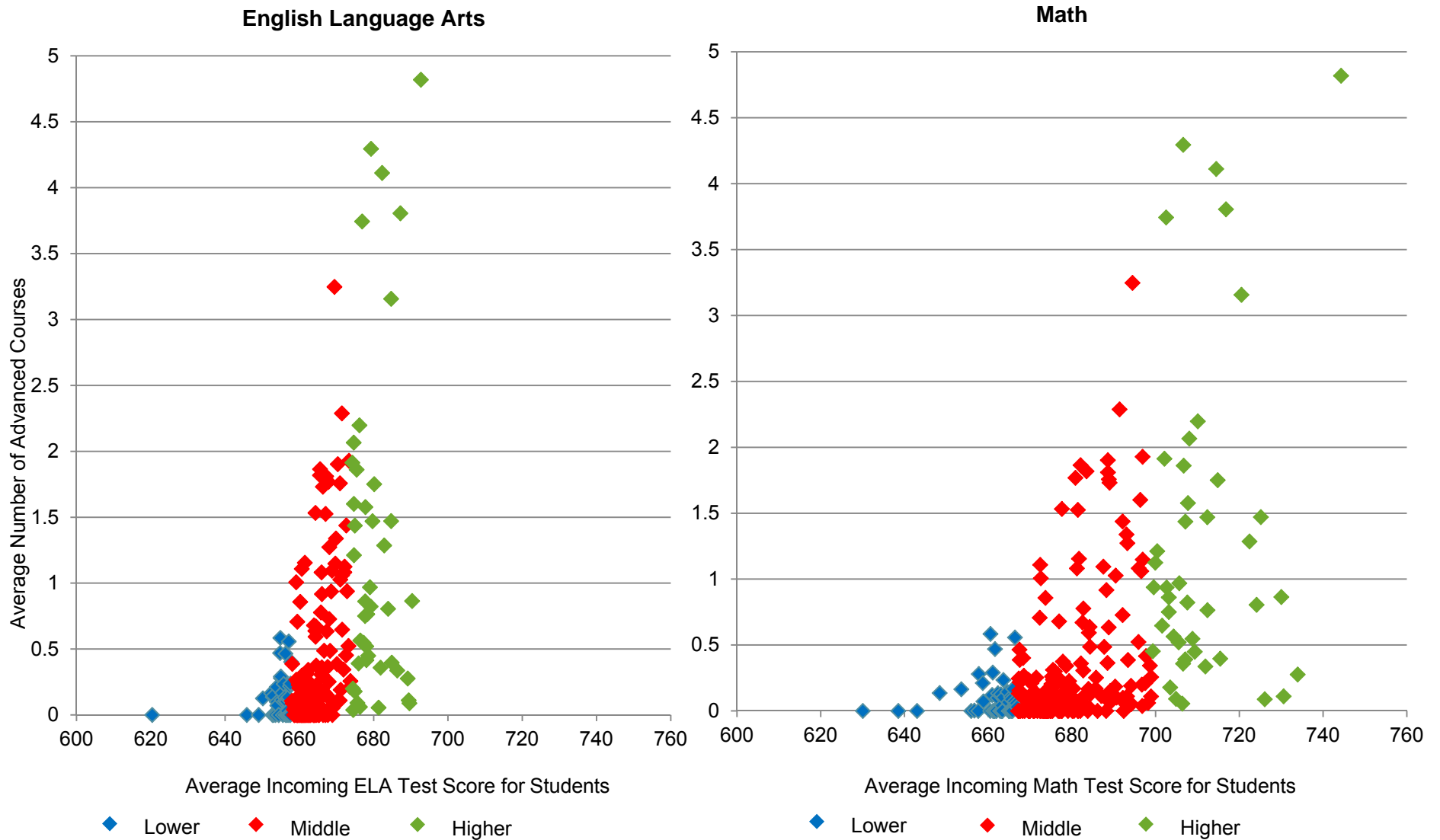
All Schools With the Highest Achieving Incoming Students Had at Least Some Students Who Took Advanced Courses; Among Schools With Lower Achieving Incomers, Over 40 Percent of Schools Had No Students Who Took an Advanced Course, 2012-2013



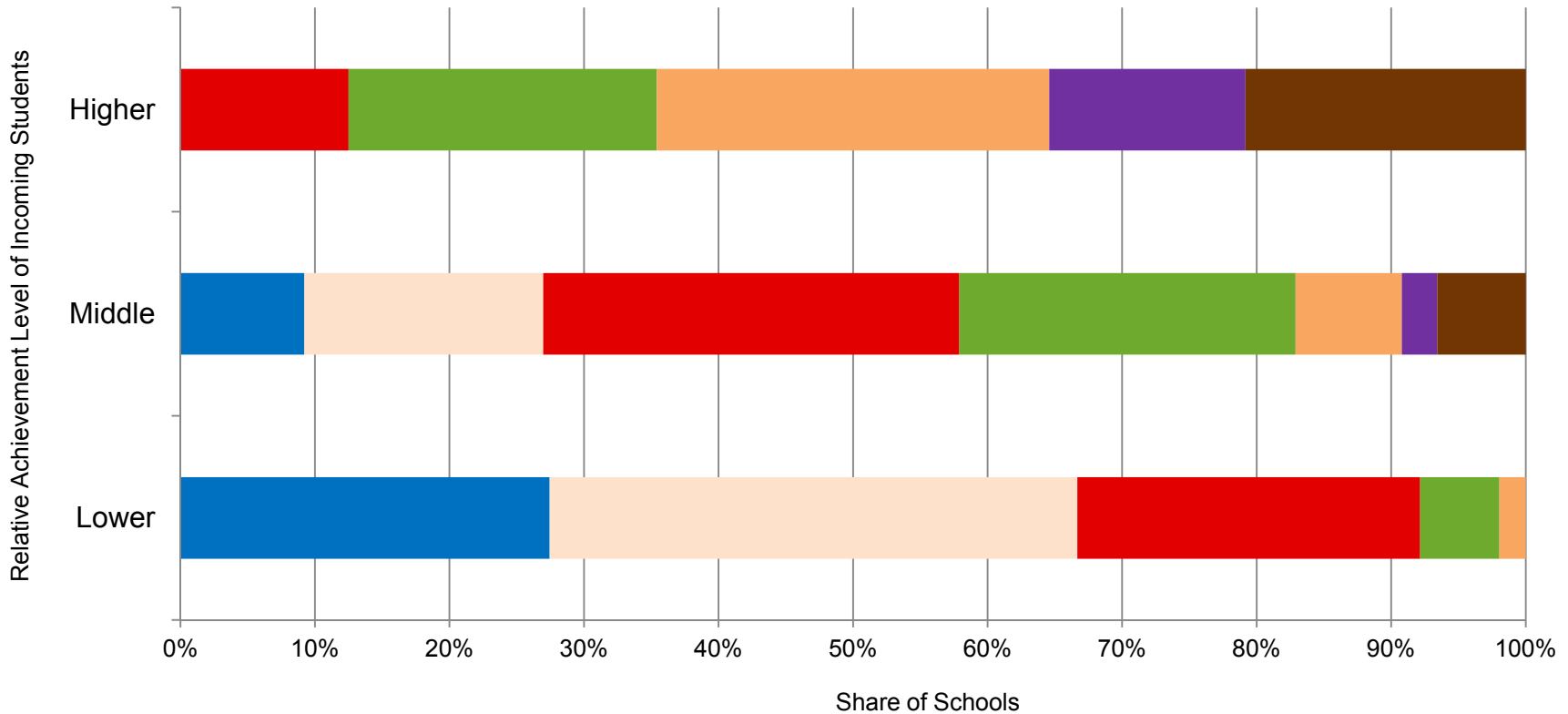
**Average Number of Advanced Courses Taken by Students in a School**

Incoming Student Scores	0	0 to 1	1 to 2	> 2
Higher	0.0%	58.3%	25.0%	16.7%
Middle	22.7%	62.6%	13.5%	1.2%
Lower	40.7%	59.3%	0.0%	0.0%

# The Higher the Achievement Level of Incoming Students, the Greater the Average Number of Advanced Courses That Students Took (2012-2013)



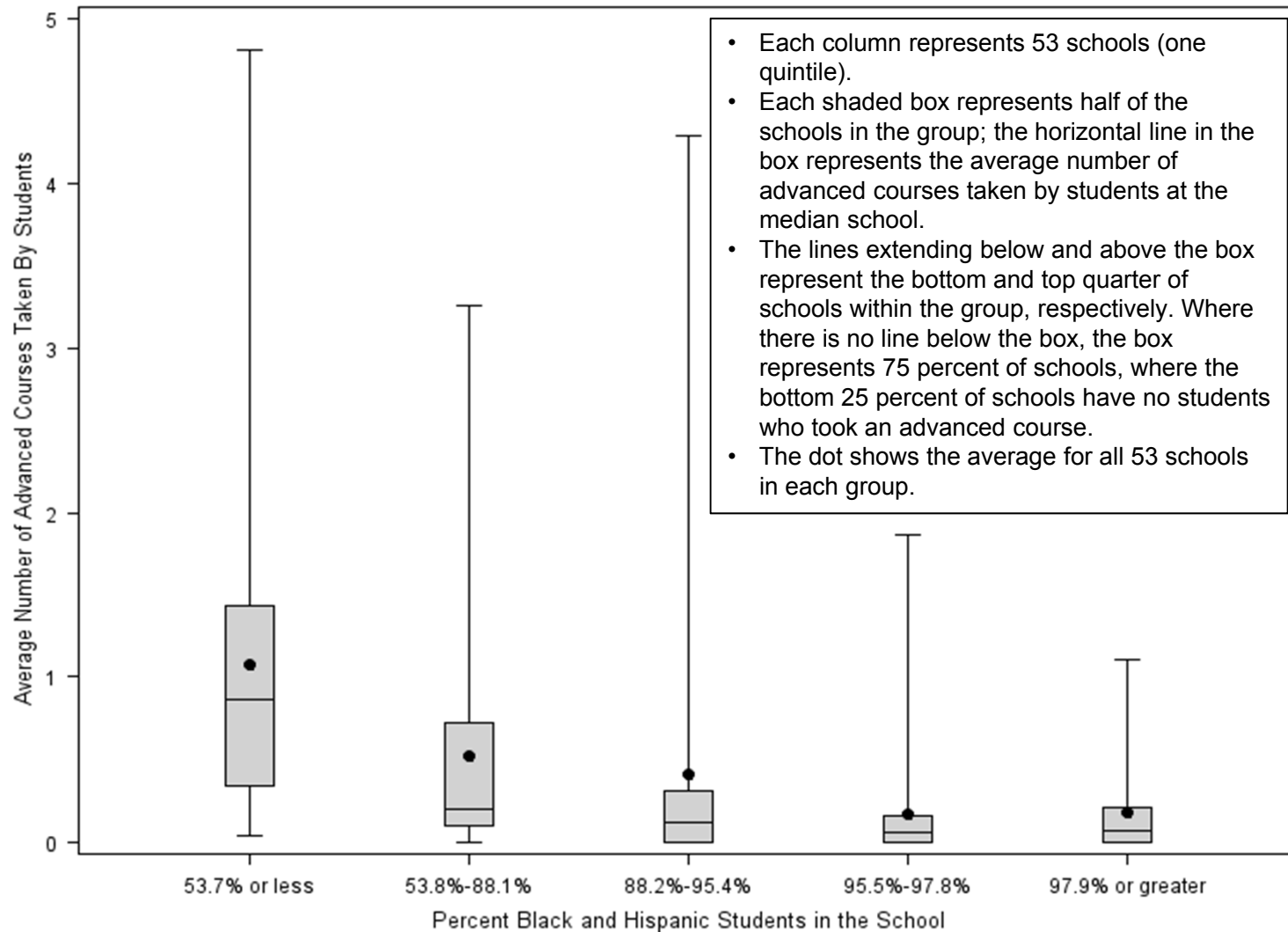
## All Schools With Higher Achieving Incoming Students Had More than 10 Percent Of Eighth Graders Take a Regents Exam, But Only a Third of Schools With Lower Achieving Incoming Students Had More Than 10 Percent of Eight Graders Take The Exam, 2012-2013



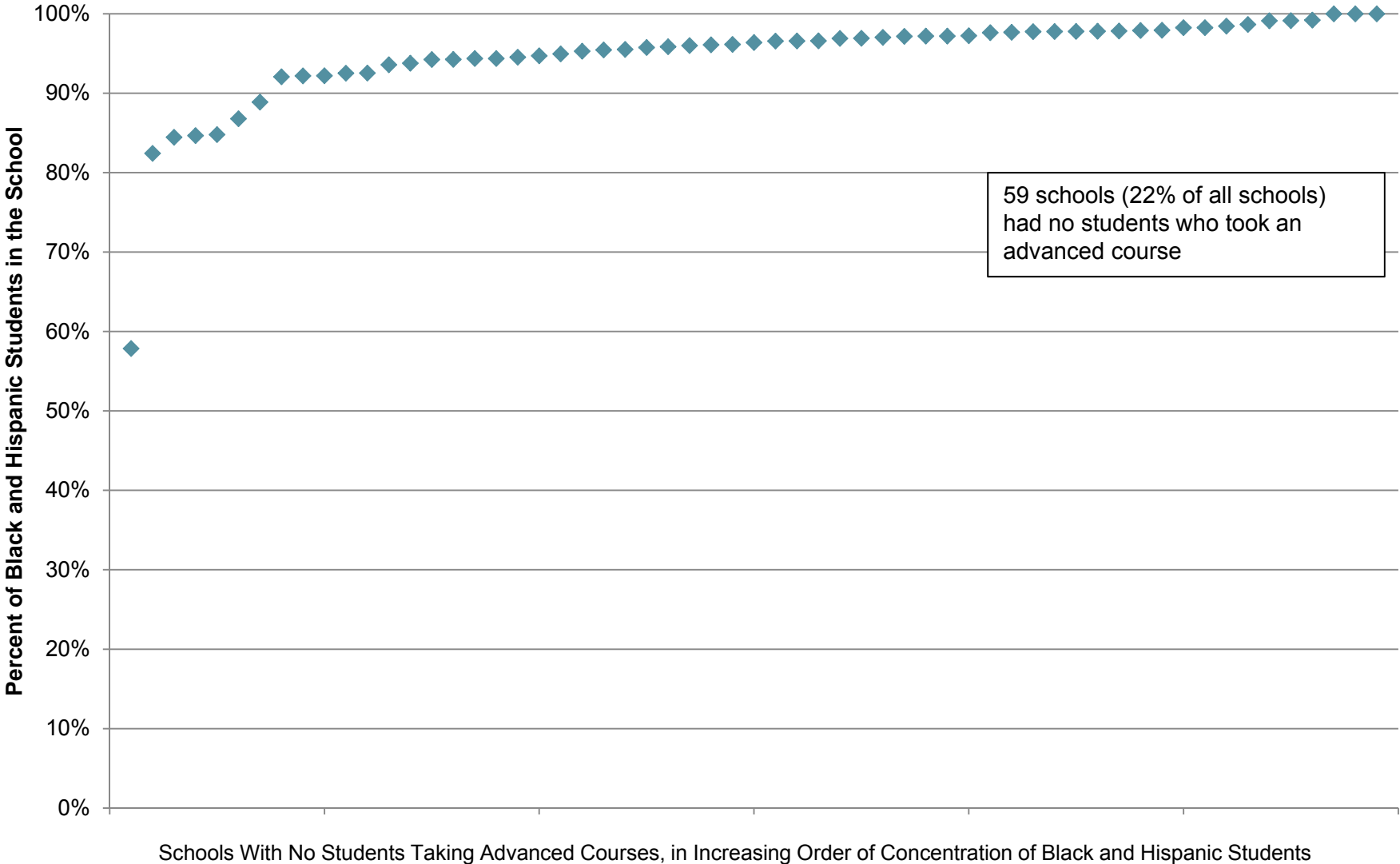
**Percent of Eighth Graders in a School Who Took a Regents Exam**

Incoming Student Scores	0%	>0%-10%	>10%-20%	>20%-30%	>30%-40%	>40%-50%	>50%
Higher	0.0%	0.0%	12.5%	22.9%	29.2%	14.6%	20.8%
Middle	9.2%	17.8%	30.9%	25.0%	7.9%	2.6%	6.6%
Lower	27.5%	39.2%	25.5%	5.9%	2.0%	0.0%	0.0%

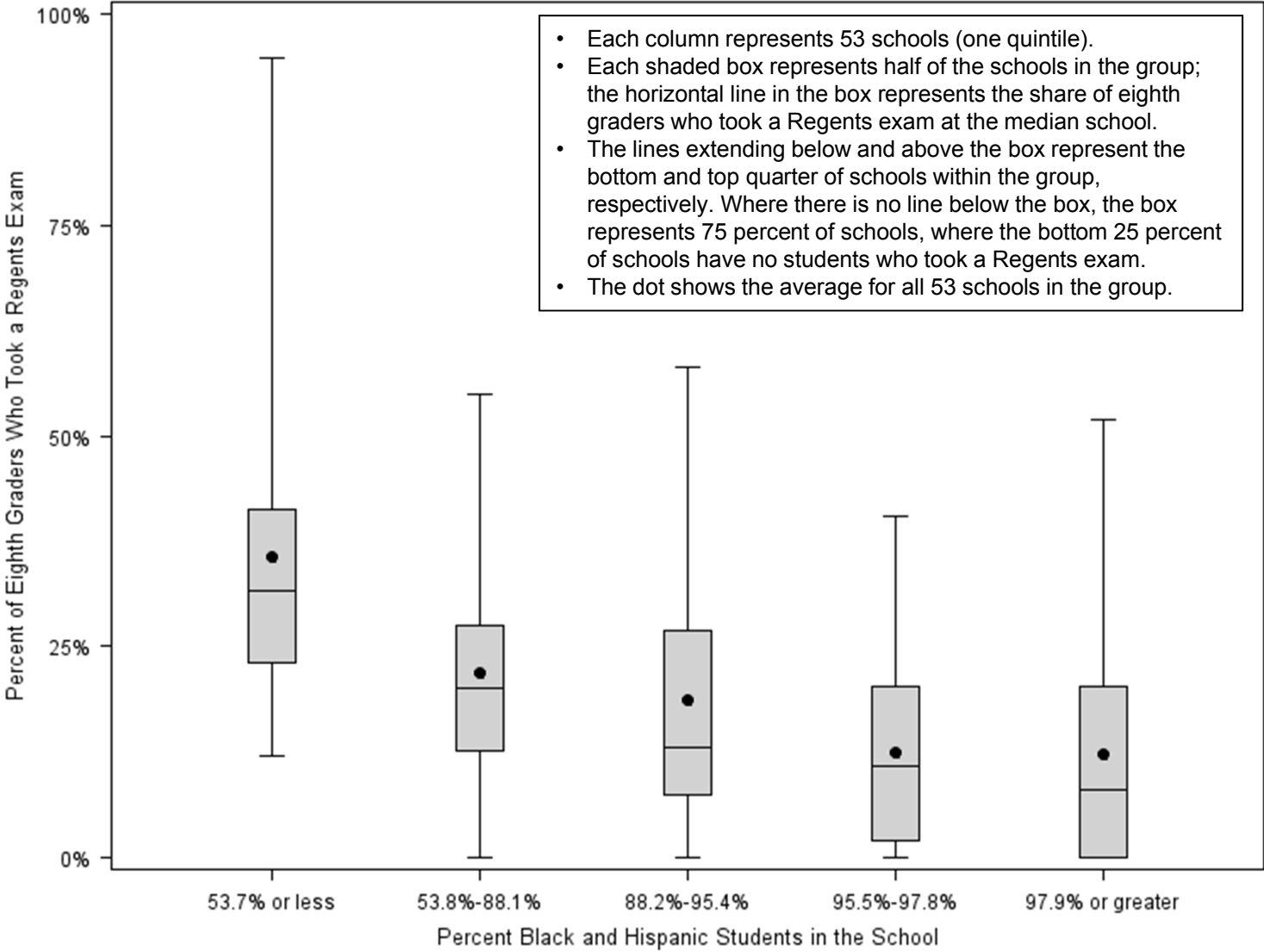
## The Number of Advanced Courses Taken by Students Generally Decreases as The Percent of Black and Hispanic Students Increases, Although There Are Many Exceptions Among Schools With the Highest Concentrations of Black And Hispanic Students, 2012-2013



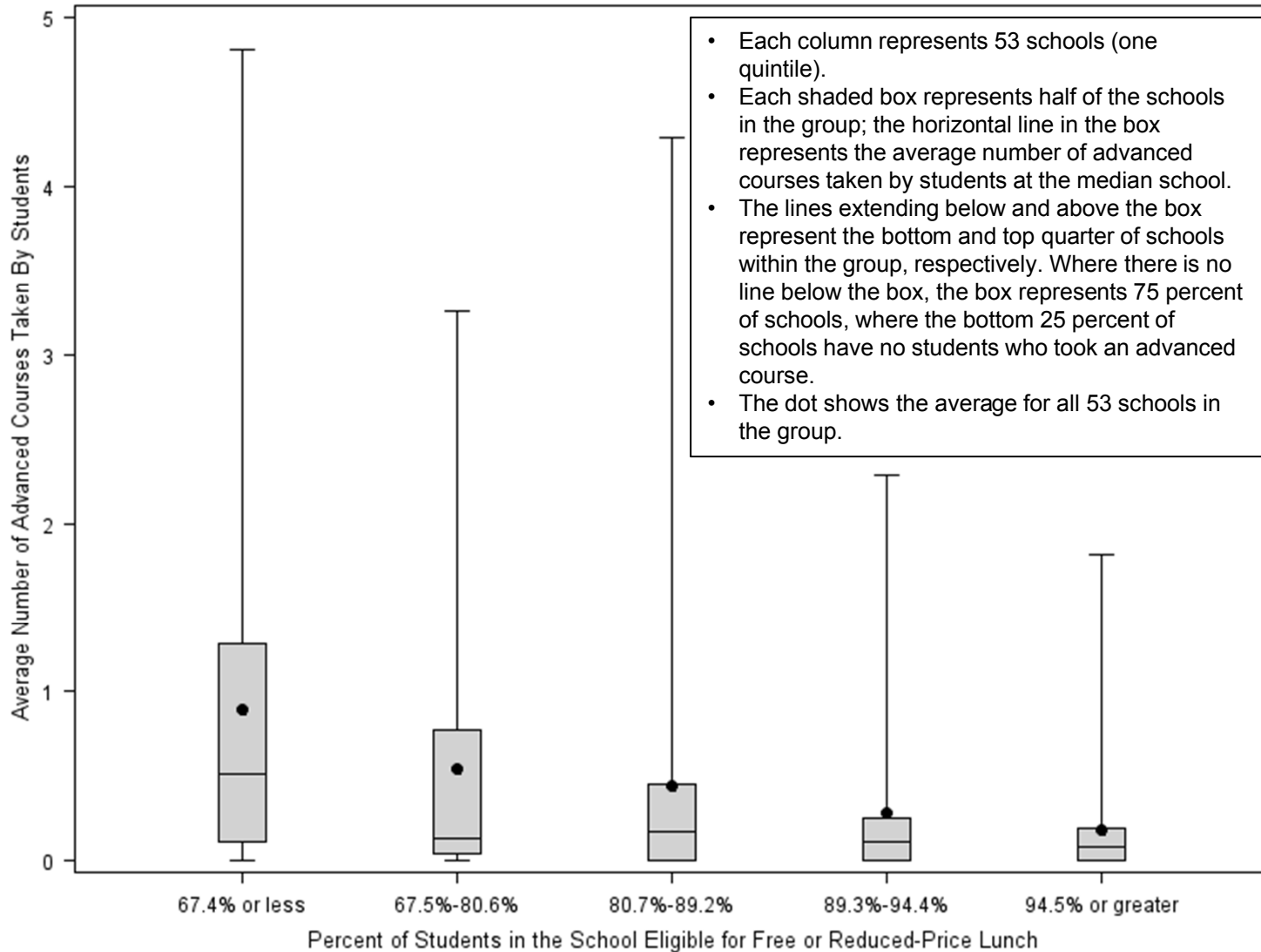
# Schools With No Students Who Took an Advanced Course Served High Concentrations of Black and Hispanic Students, 2012-2013



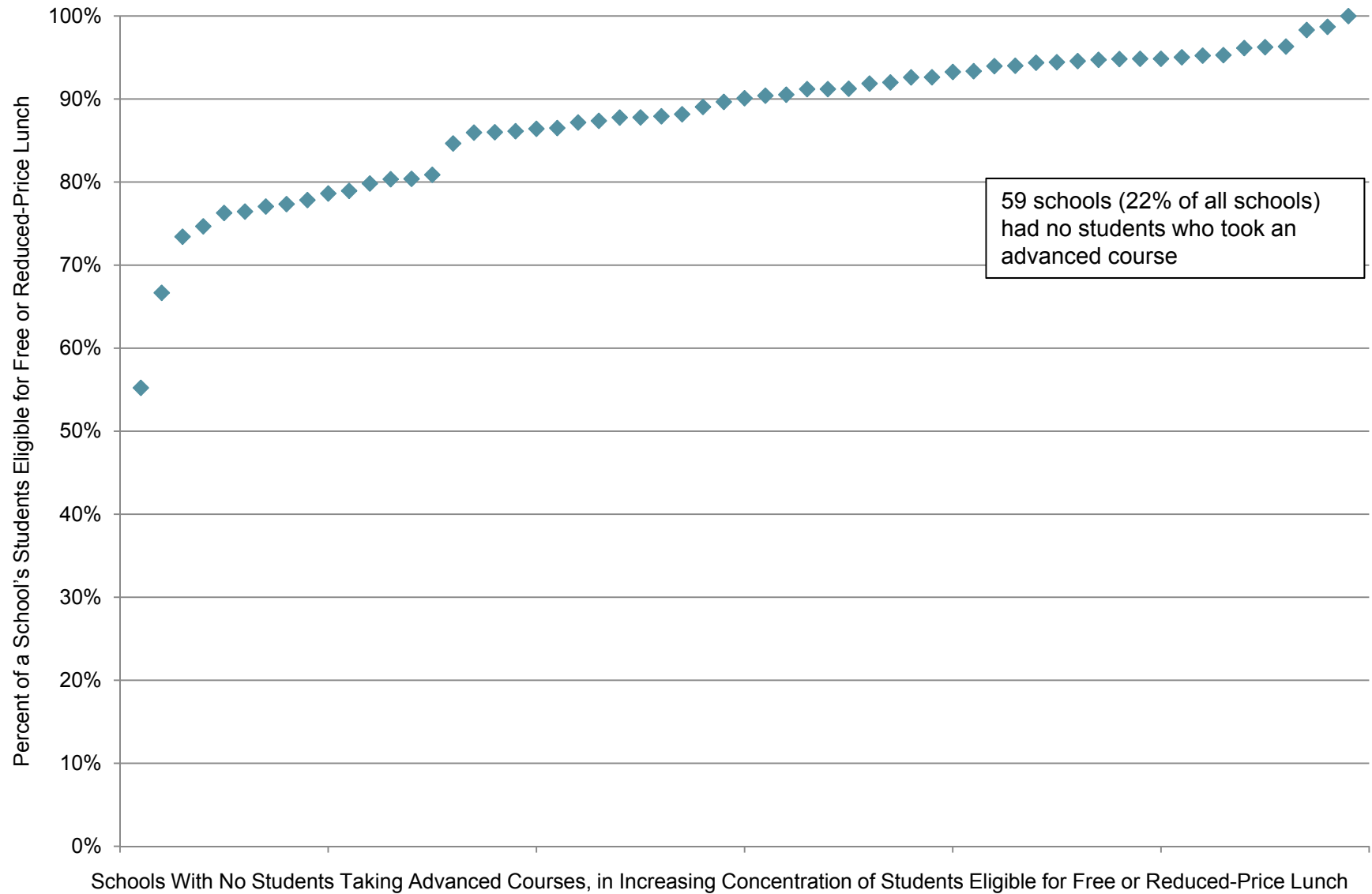
# All Schools with the Lowest Shares of Black and Hispanic Students Had at Least Some Eighth Graders Who Took a Regents Exam, 2012-2013



## The Number of Advanced Courses Taken by Students Generally Decreases as the Percent of Students Eligible for Free or Reduced-Price Lunch Increases, 2012-2013

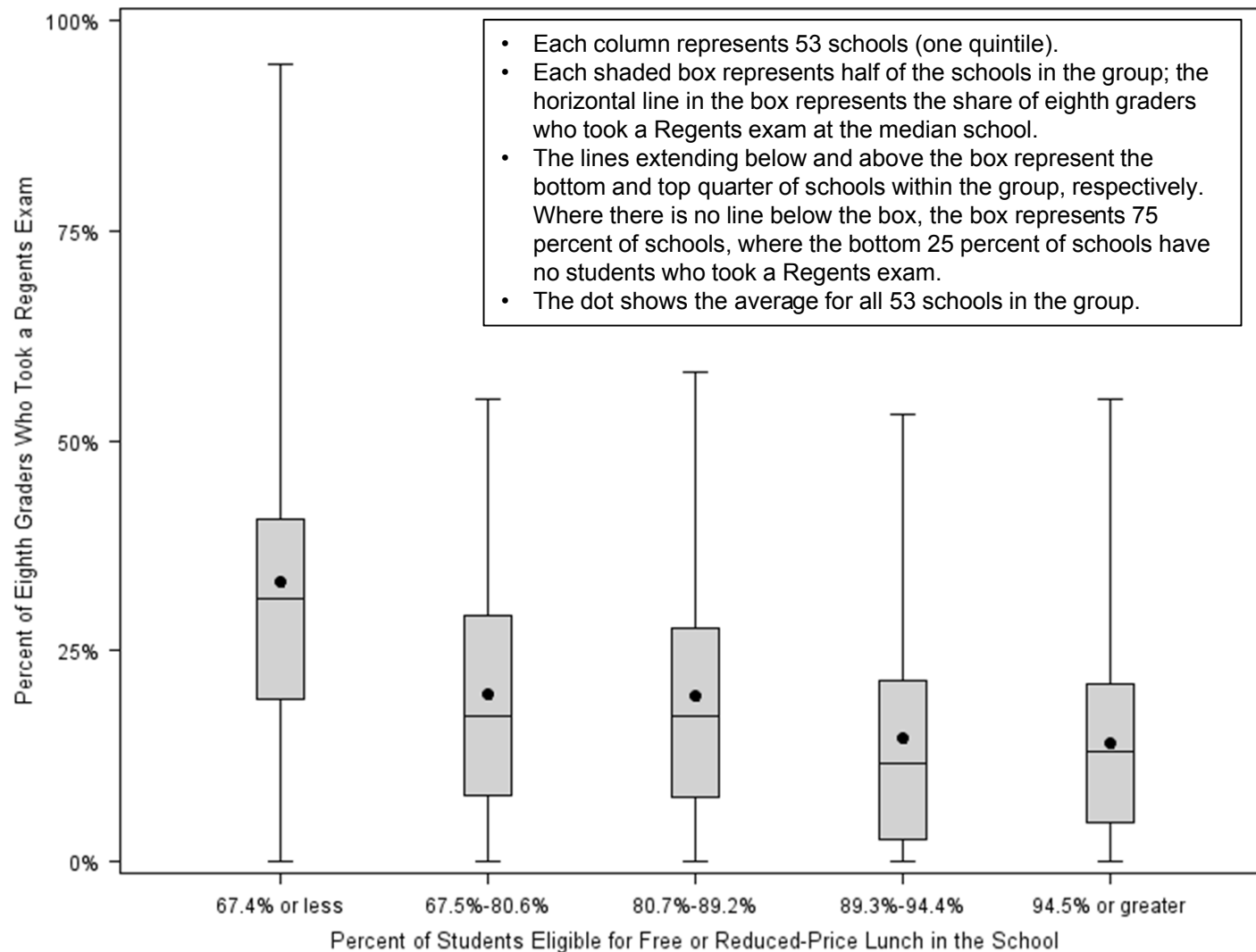


## Schools With No Students Who Took an Advanced Course Served High Concentrations of Students Eligible for Free or Reduced-Price Lunch, 2012-2013

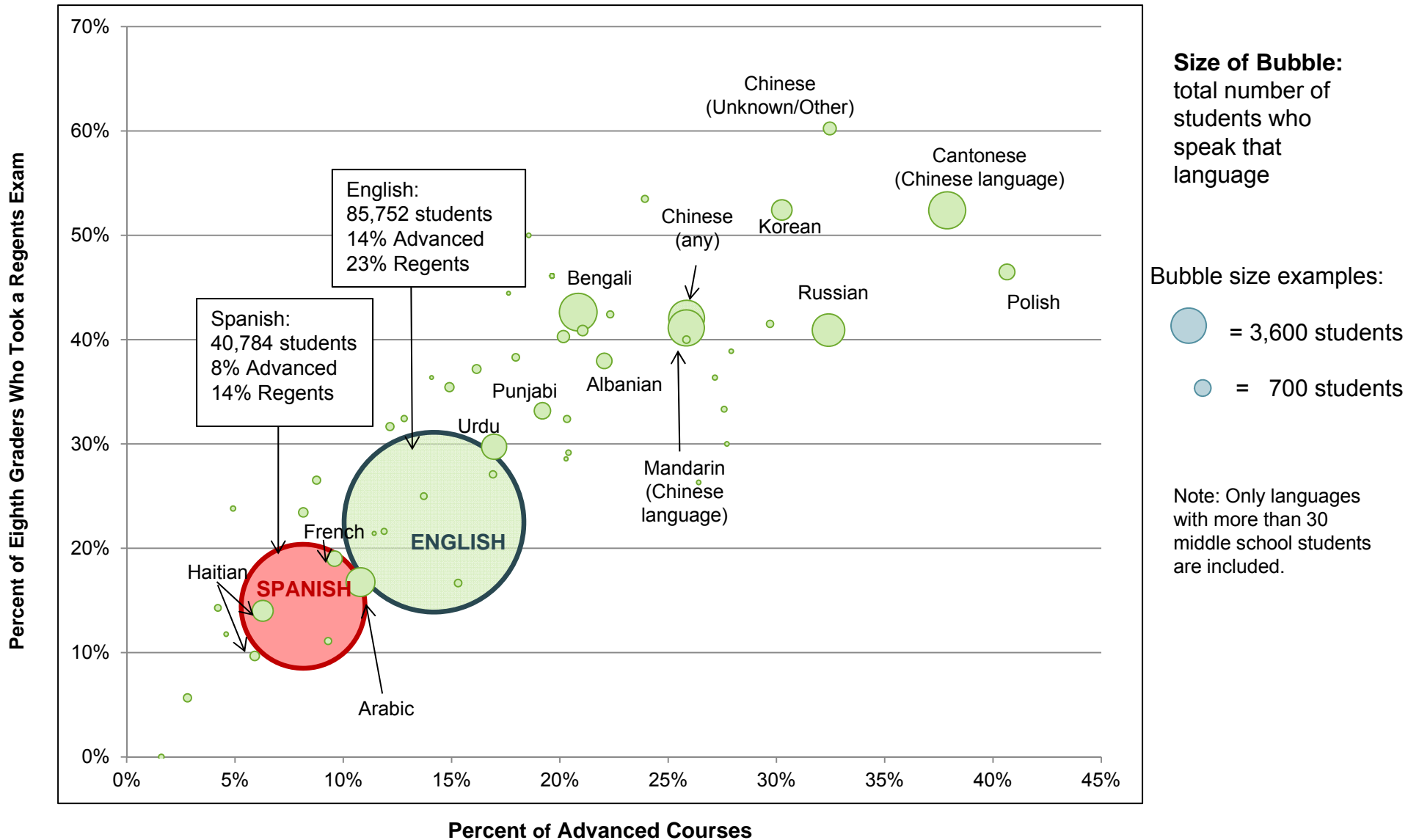




## Schools With the Lowest Concentrations of Students Eligible for Free or Reduced-Price Lunch Have the Highest Shares of Eighth Graders Who Took a Regents Exam; There Is No Distinct Pattern Among the Four-Fifths of Schools With Greater Than 67 Percent of Students Eligible for Free or Reduced-Price Lunch, 2012-2013



## Native English and Spanish Speakers Tended to Take Fewer Advanced Courses and Were Less Likely to Take a Regents Exam as an Eighth Grader Compared With Other Native Speakers, 2012-2013





# ARTS AND MUSIC TEACHER AVAILABILITY

- Citywide
- By Subgroup

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NOTE: Our analysis includes only full-time teachers. Part-time (F-status or itinerant) teachers are not included. The analysis only includes Department of Education employees; we cannot account for cases where schools partner with outside organizations for arts instruction.

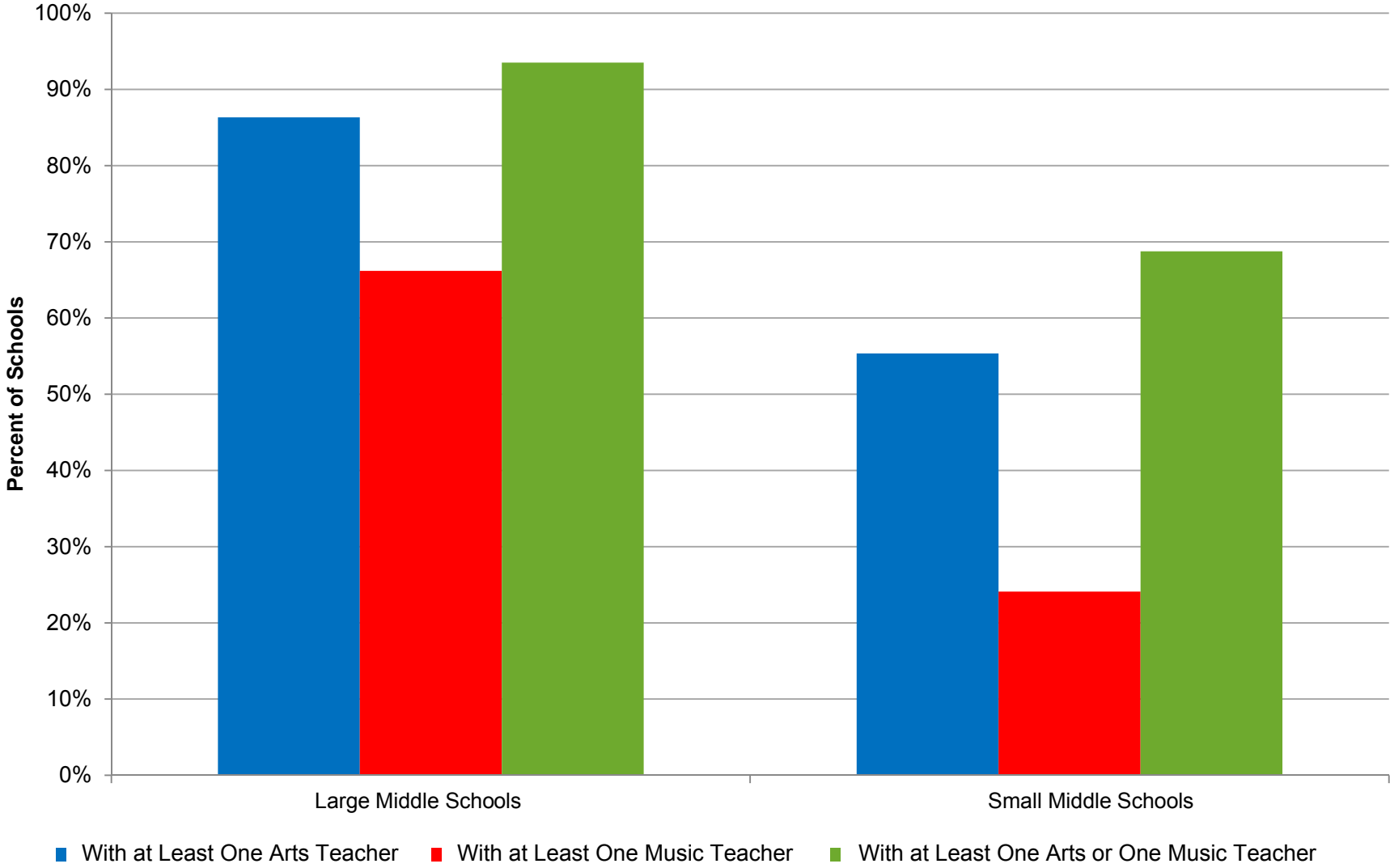
## Nearly Four Out of Five Middle Schools Have at Least One Full-Time Arts or Music Teacher; One-Fifth Have Neither

- There are 332 full-time teachers assigned to the arts and 186 assigned to music.
- About 70 percent of schools have at least one full-time arts teacher.
- Only 45 percent of schools have at least one full-time music teacher.
- About 79 percent of schools (210 schools) have either a full-time arts or a music teacher.

	Share of Schools
With at Least One Arts Teacher	69.8%
With at Least One Music Teacher	45.3%
With at Least One Arts <i>or</i> Music Teacher	79.2%
<u>With <i>Neither</i> an Arts <i>Nor</i> a Music Teacher</u>	<u>20.8%</u>

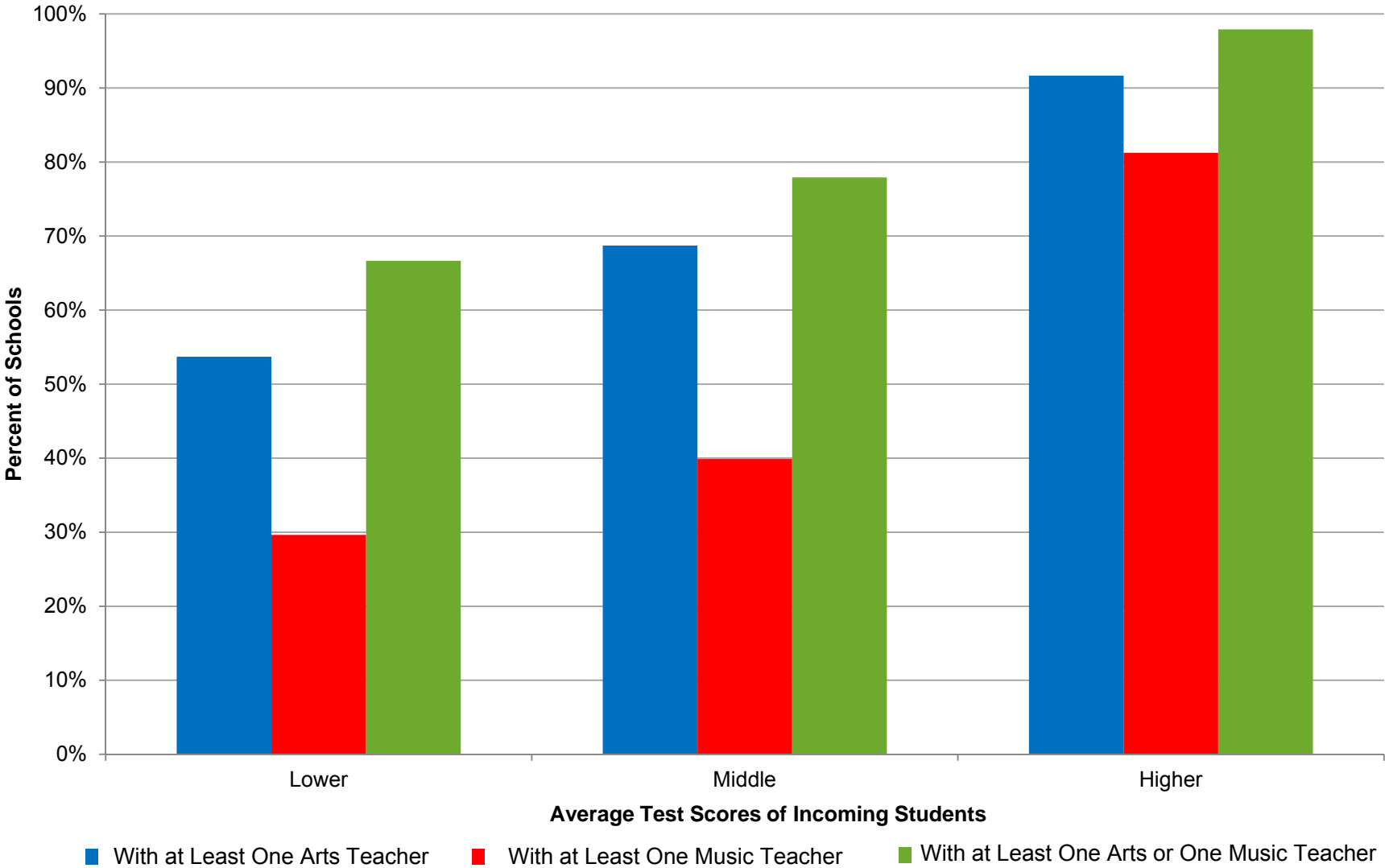
NOTES: There were 265 middle schools in 2012-2013. "Arts" includes fine arts, performing arts/drama, and dance.

# Large Schools Were Far More Likely to Have At Least One Full-Time Arts and/or Music Teacher, 2012-2013



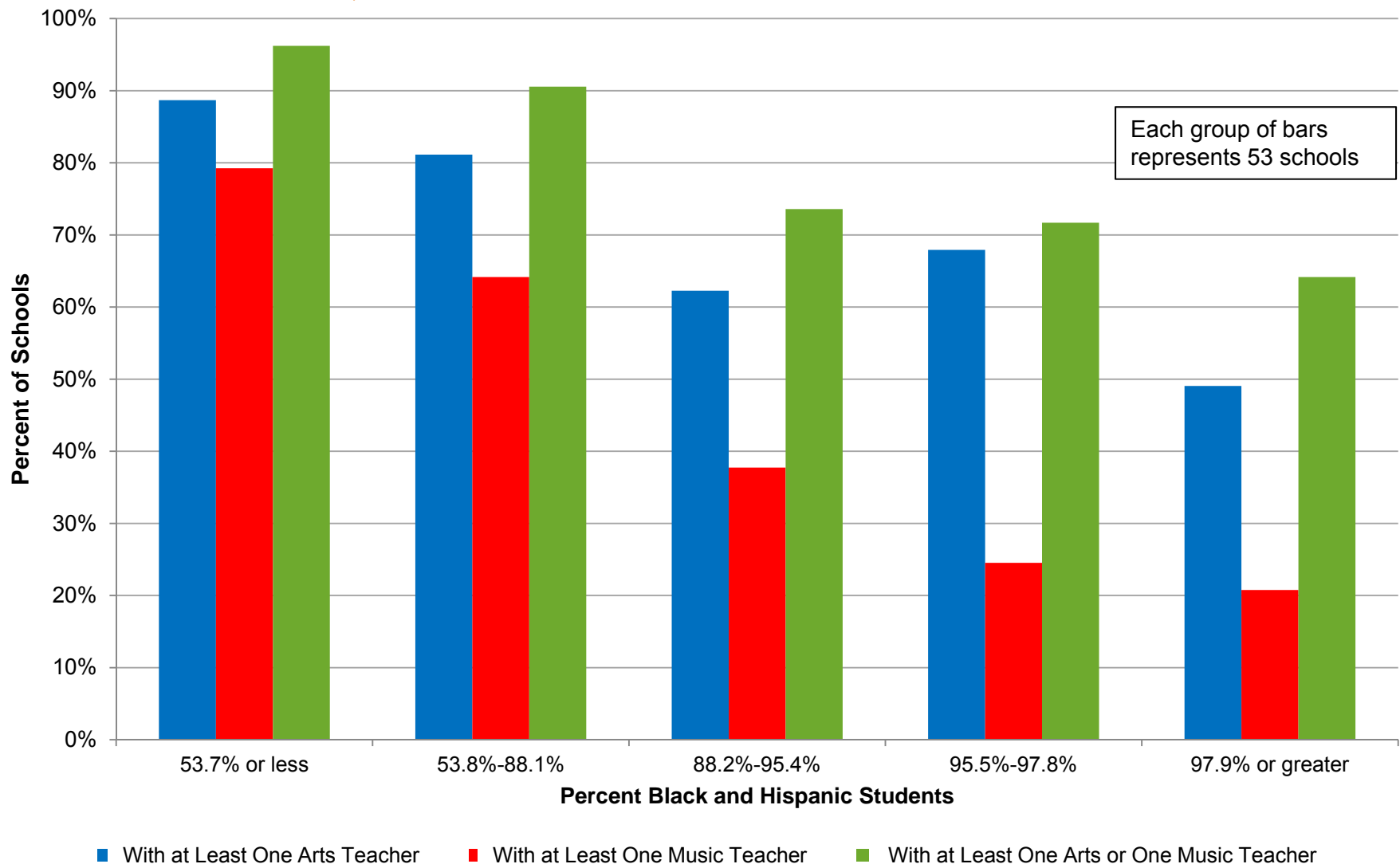
NOTES: Large middle schools had more than 400 students. Only full-time teachers are included.

# Schools With Higher Achieving Incoming Students Are More Likely to Have a Full-Time Arts and/or Music Teacher, 2012-2013



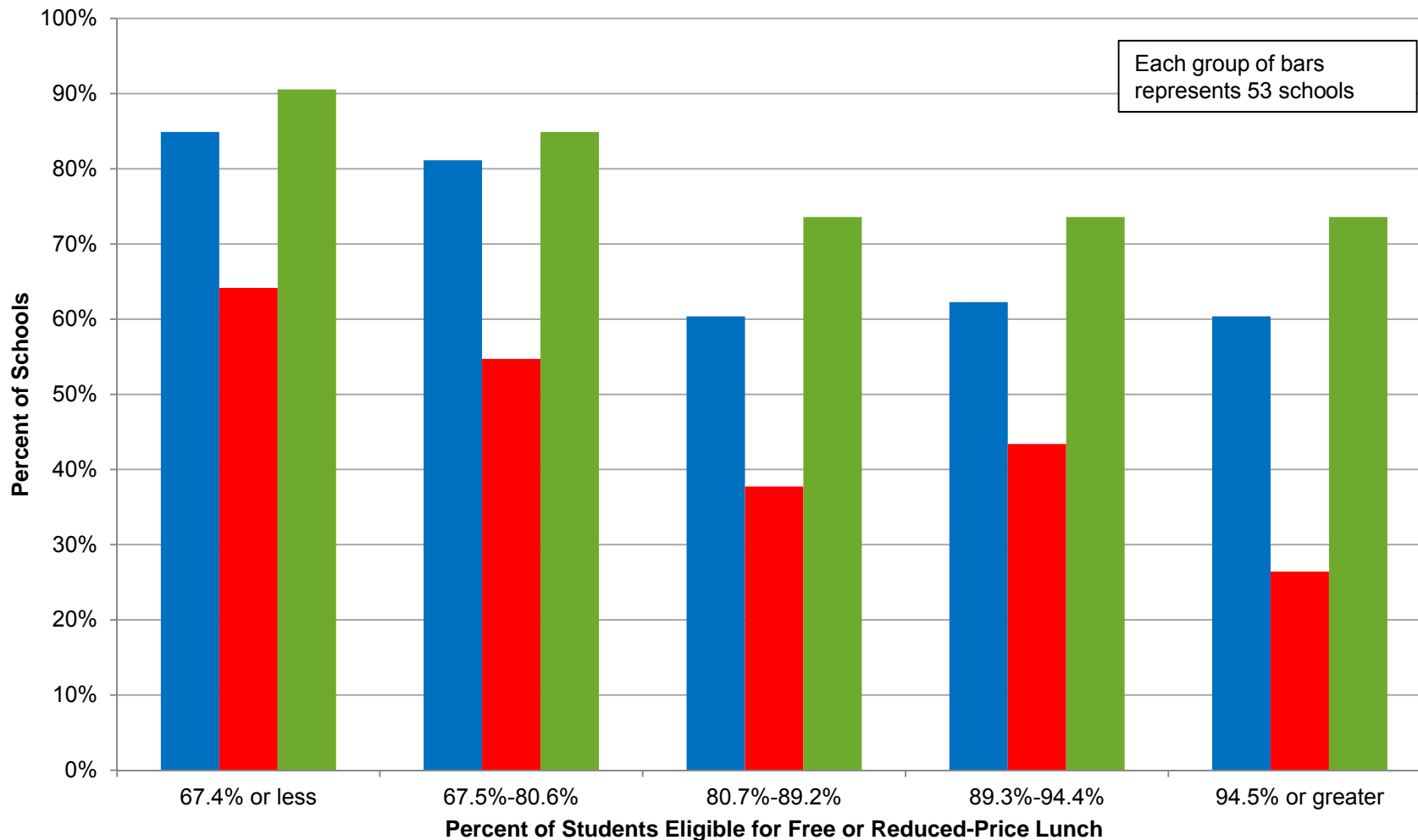
NOTE: Only full-time teachers are included.

## Schools With Higher Concentrations of Black and Hispanic Students Are Far Less Likely to Have a Full-Time Music Teacher; More Than 60 Percent of Schools with the Highest Concentration of Black and Hispanic Students Have at Least One Full-Time Arts or Music Teacher, 2012-2013



NOTE: Only full-time teachers are included.

## The Two-Fifths of Schools With the Smallest Shares of Students Eligible for Subsidized Lunch Are More Likely to Have at Least One Full-Time Arts or Music Teacher Than the Three-Fifths of Schools With Higher Concentrations of Such Students, 2012-2013



■ With at Least One Arts Teacher   ■ With at Least One Music Teacher   ■ With at Least One Arts or One Music Teacher

NOTE: Only full-time teachers are included.



# Concluding Thoughts: Findings

- Only 21 percent of students take an advanced course and there are no students taking advanced courses in almost a quarter of middle schools.
- The relative achievement of incoming students plays a much larger role in the frequency that students take advanced courses and/or a Regents exam than the ethnic or lunch subsidy composition of a school.
- There is a much stronger relationship between student demographics and the incidence of advanced courses than between student demographics and the incidence of Regents exams.
- Almost 80 percent of schools have at least one full-time arts or music teacher.
  - Large schools are more likely to have one.
  - Student demographics also matter regarding availability of arts and music resources—schools that are more likely to have a full-time arts or music teacher are those with: higher achieving incoming students, lower concentrations of black and Hispanic students, and lower concentrations of students eligible for free or reduced-price lunch.

# Concluding Thoughts: Implications

- In 23 percent of middle schools, no students took an advanced course.
  - Should advanced courses be offered in all schools regardless of student composition?
  - Is it more important for the definition of what is considered “advanced” to be consistent across schools or should the definition be relative to the specific student population each school serves?
- School size and student demographics (incoming test scores, ethnic composition, and meal subsidy composition) both play an important role in the probability that a school serves students who take advanced courses or Regents exams; or that a school has a full-time arts and music teacher.
  - Schools in the middle in terms of incoming students’ average test scores seem to serve a student population that is academically more similar (in terms of taking advanced courses or a Regents exam) to schools with lower achieving incoming students than schools with higher achieving incoming students.
  - Is the school system shortchanging students in the 112 middle schools that are small?

# Appendix:

## Data Definitions and Methodology

- Sample: 265 middle schools that served grades 6-8
  - 244 (92 percent) served only those grades
  - 6 also served fifth grade; 1 also served ninth grade
  - 14 were phasing in
  - Served 158,128 students
  - Excludes: schools phasing out, schools serving grades K-8 or 6-12
- Data from 2012-2013 school year:
  - *Course and Credit Data*—each course taken by each student
  - *Regents Exam Data*—each Regents exam taken by each student
  - *Human Resources Data*—identifies teacher assignments

# Notes on Methodology

- Course and credit data
  - IBO identified the incidence of students taking courses in the core subjects: English, math, science, and social studies.
    - These subjects account for a combined 61 percent of all course data in our middle school sample, with physical education accounting for the next highest share (15 percent).
  - Advanced courses were defined as either honors or accelerated courses in the core subjects.
    - Honors courses were identified using DOE's assigned course code.
    - Accelerated courses were identified based on course titles including terms such as: "accelerated," "ACC," "Honors," and "Advanced."
- Regents data
  - An eighth grade student was considered to have taken a Regents exam if he or she took one in any subject.
  - IBO did not consider the student's score. This metric was meant to simply capture a signal of high academic achievement for an eighth grader who took an exam designed for high schoolers.

# Notes on Methodology

- Human resources data
  - Teachers assigned to fine arts, performing arts/drama, or dance were classified as assigned to “Arts.”
  - Teachers assigned to music or orchestral music were classified as assigned to “Music.”