RISE PROGRAMME IN INDONESIA

Are the Best, Favourite Schools Really Good Schools?

The Case of Junior Secondary Schools in Yogyakarta

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The RISE Programme in Indonesia

The SMERU Research Institute

Presentation Outline

1. Background
2. Indonesia's School System & Schooling in Yogyakarta
3. Data
4. Methodology
5. Results
6. Conclusion

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Background

Motivation and Research Question

Motivation:

School Choice

Choosing a good school for their child is a key decision for parents. In making their choice, parents often rely on outcomes such as the average exam performance of students in a school.

School Contribution towards Student's Learning

When students non-randomly select into schools according to prior ability or other socioeconomic factors, such outcomes partly measure the prior ability or family background of the student body rather than the contribution of a given school.

Research Question:

What are the value added of junior secondary schools in Indonesia? Taking the case of Yogyakarta City.

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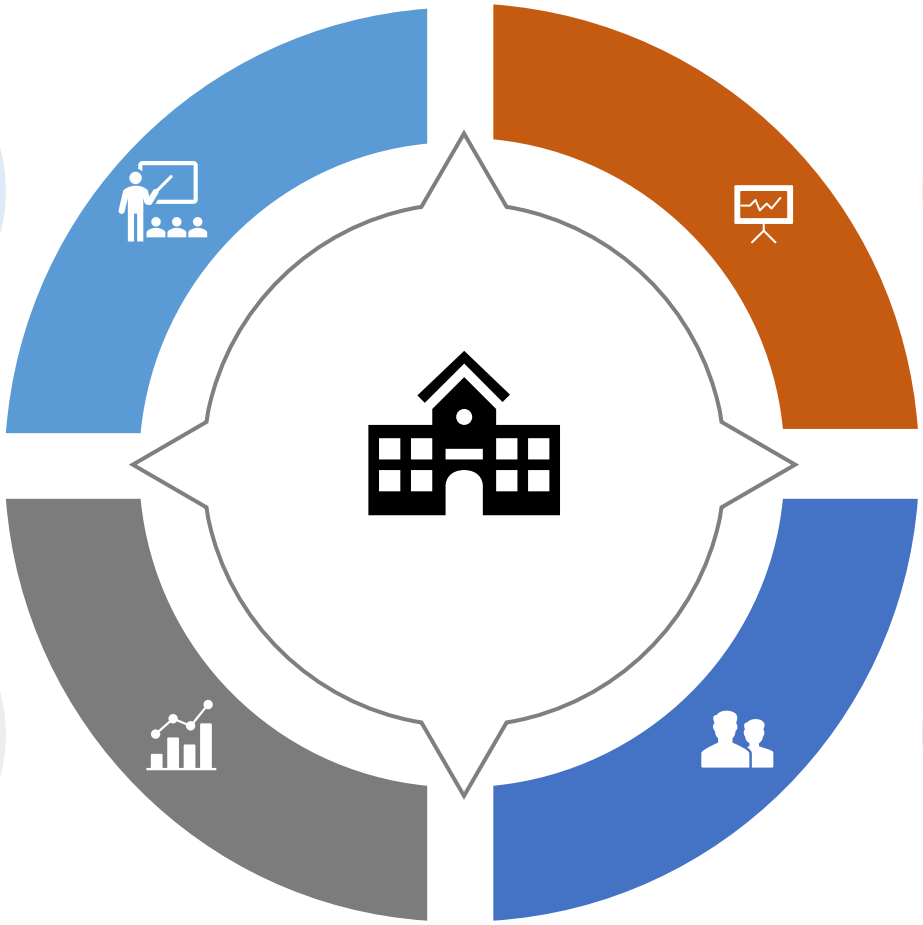
Indonesia's School System & Schooling in Yogyakarta

Indonesia’s School System

Compulsory Basic Education:
6 years of primary school (Grade 1-6), followed by 3 years of junior secondary school (Grade 7-9).

Admission based on exit exam score to enroll in the next level of education (e.g. select students based on Grade 6 exam score to be admitted to junior secondary schools).



Public schools generally perform better than private schools. Due to better resources, qualified teachers, high performing peers → score higher in exit examination than private schools.

Parents aspire to enroll their child in the top favorite public schools.

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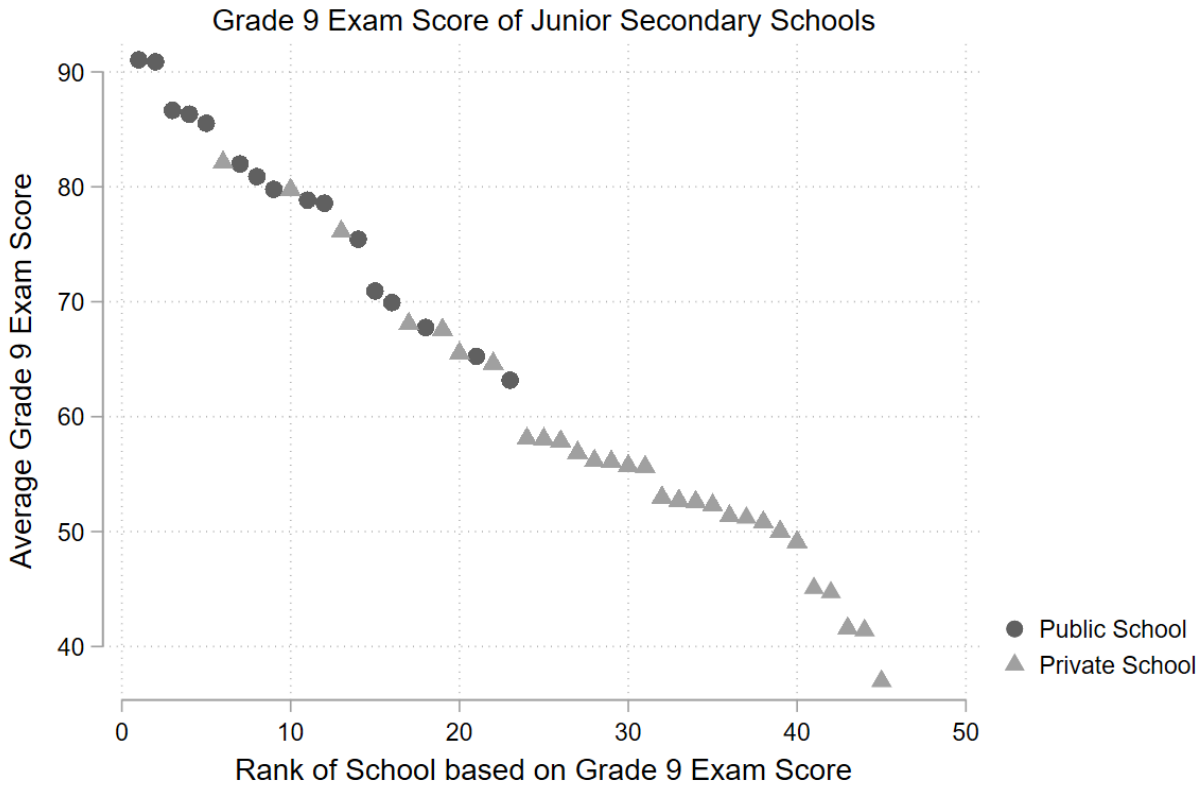
Yogyakarta City

- **City of Education:** has some of the highest-performing schools in the country.
- The city has 16 public junior secondary schools that serve about 60 percent of all students.
- Small city with little transport time and low cost of transport. Thus might have had little effect on students' and parents' school choice.

Best and Favourite Schools in Yogyakarta



Top favorite schools are schools with high Grade 9 Exam Score (exit examination from junior secondary school).

Public schools tend to be the high ranked schools based on the achievement in Grade 9 Exam Score.

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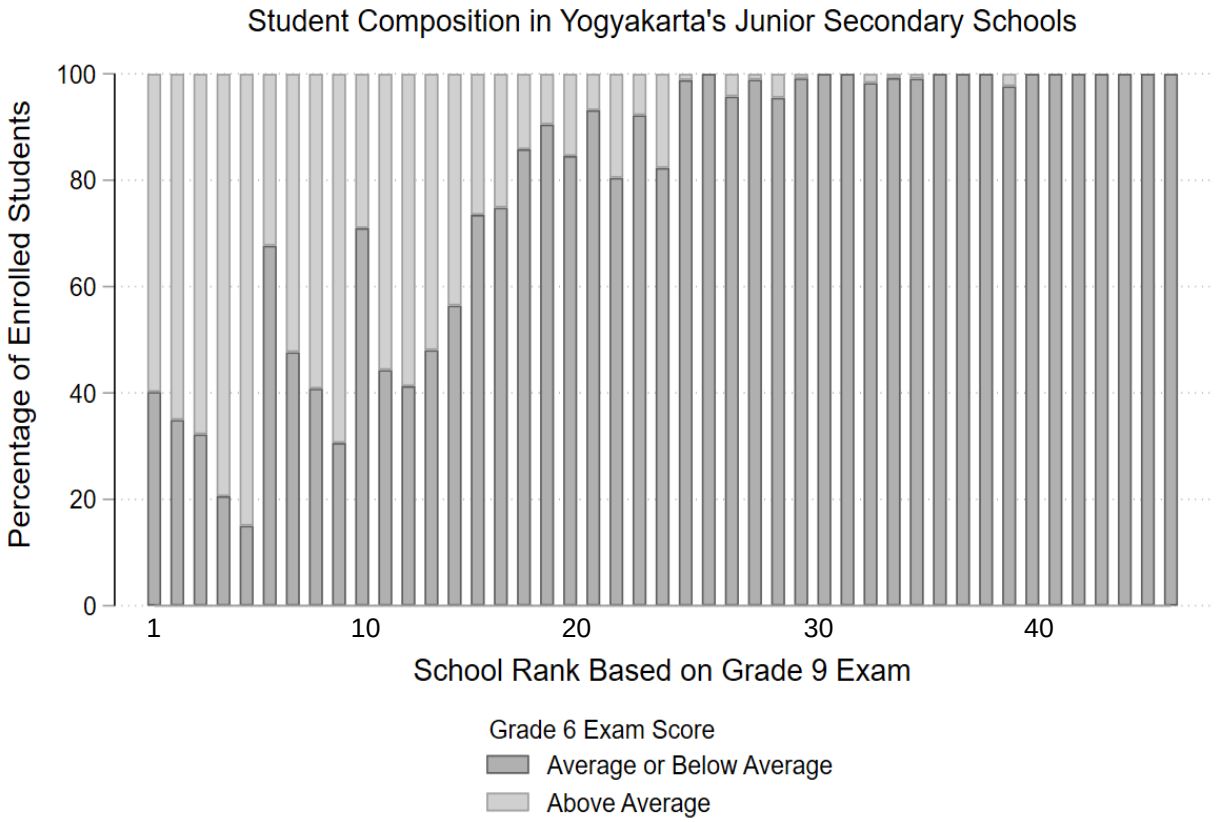
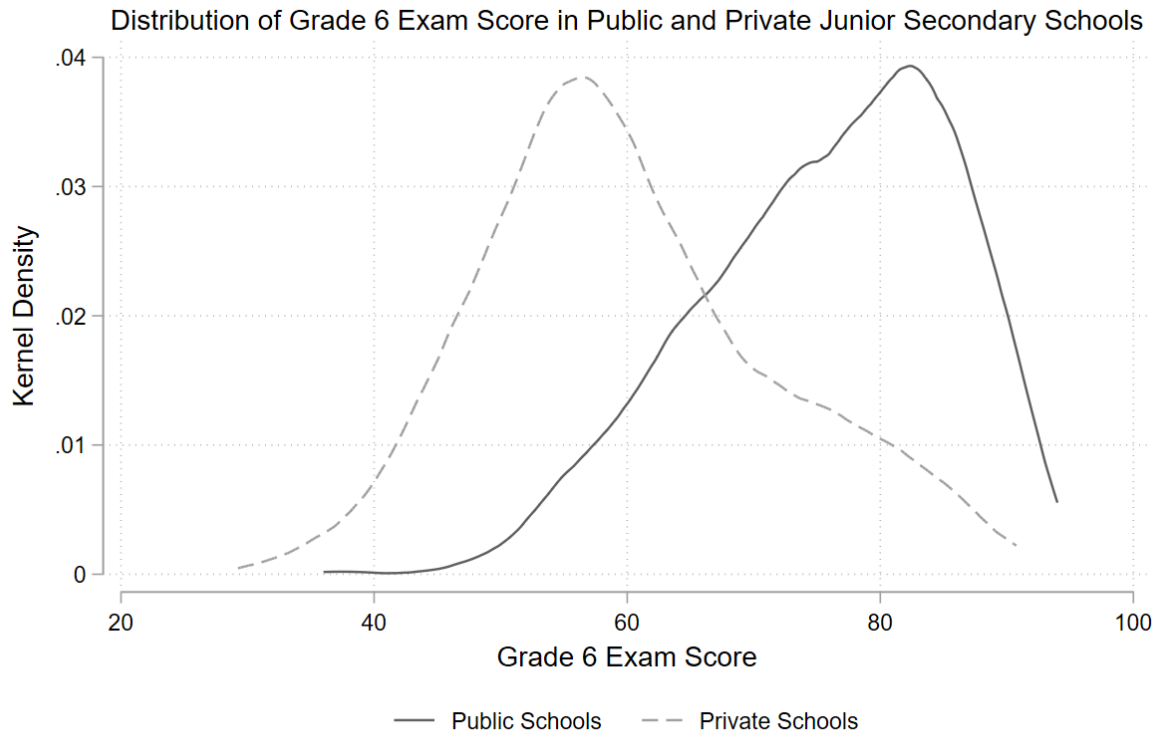
Top Schools Benefit from High Performing Student Peers





"Are the Best, Favourite Schools Really Good Schools?"

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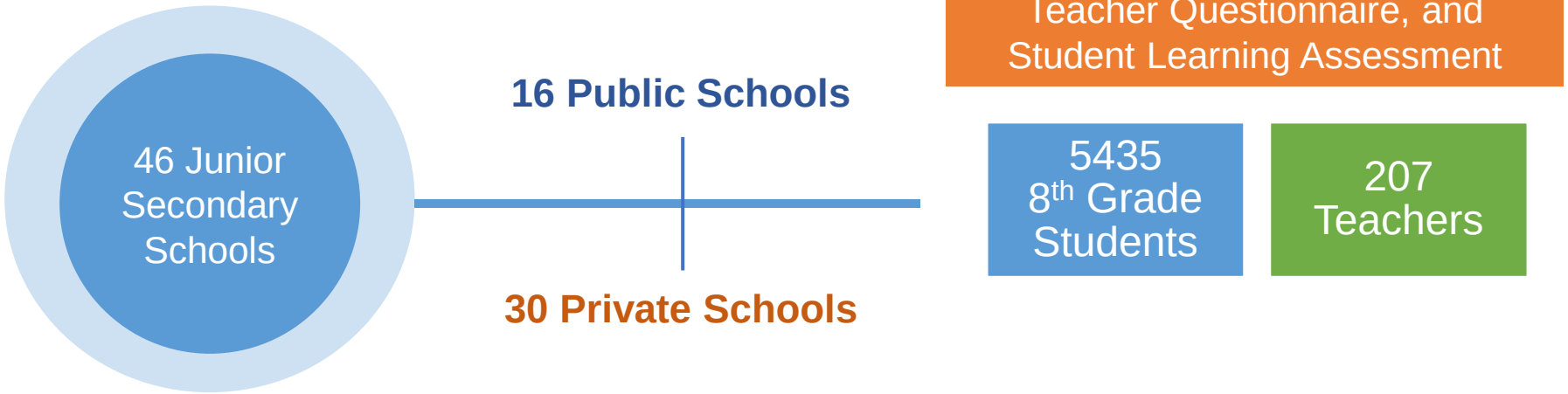
Data

Data Source

Survey carried out in February 2019 :

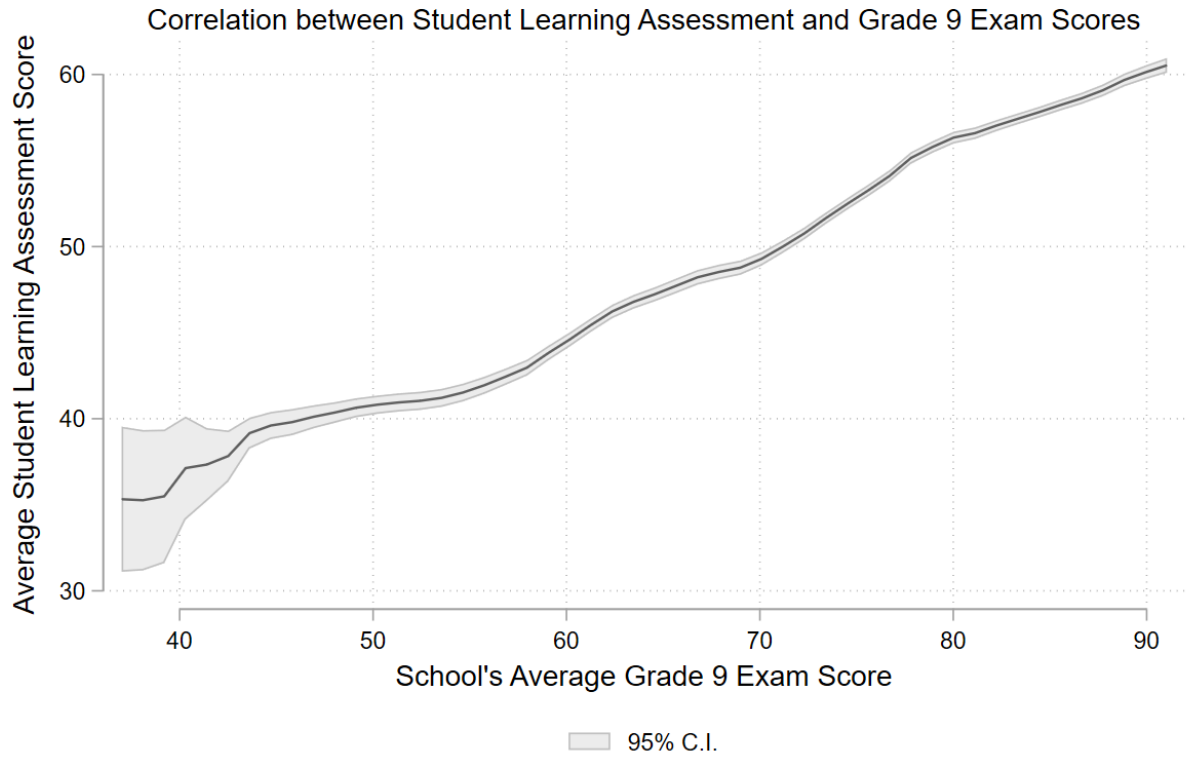


Stratified sampling to get representative sample from a total of 58 junior secondary schools.

Student Learning Assessment as Testing Instrument

Comprehensive Reading and Mathematics Assessment Tool (CERMAT):

- Assess reading and mathematics skills of students in Grades 1–9.
- Uses a framework based on the revised Bloom's Taxonomy for cognitive domains; stages of numeracy development; Fountas and Pinnell's Text Level Gradient that has been adapted into Indonesian literacy context; and Indonesia's 2006 and 2013 national curricula.
- Use of Rasch model to evaluate the quality of the psychometric properties of CERMAT.
- After the instrument was piloted and underwent revisions for three cycles, it finally reached a sufficient reliability score and contained items with a wide range of difficulty levels. Thus, CERMAT is sensitive enough to detect an increase in student abilities.
- Two methods used for administering CERMAT: (i) individual and oral tests for students in Grades 1–3 and (ii) classical and written tests for students in Grades 4–9.



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Methodology

Methodology

Estimating School's Value Added:

1

$$Student\ Learning\ Assessment\ score_{it} = \alpha + \beta_1\ Grade\ 6\ exam\ score_{it-1} + \beta_2\ Poor_i + \beta_3\ Parent\ university_i + \beta_4\ Travel\ time_i + \beta_5\ Motor\ vehicle_i + \beta_6\ Male_i + \beta_7\ Outside\ of\ School\ Courses_i + \theta_n\ Schools + \varepsilon_i$$

Concern of measurement error and downward bias:

2

$$Student\ Learning\ Assessment\ score_{it} = \alpha + \beta_1\ Grade\ 6\ exam\ score_{it-1} + \beta_2\ Classroom\ Average\ Grade\ 6\ exam\ score_{it-1} + \beta_3\ Poor_i + \beta_4\ Parent\ university_i + \beta_5\ Travel\ time_i + \beta_6\ Motor\ vehicle_i + \beta_7\ Male_i + \beta_8\ Outside\ of\ School\ Courses_i + \theta_n\ Schools + \varepsilon_i$$

$\theta_n = School's\ value\ added$

The highest ranked junior secondary school in Grade 9 exam score: reference for school dummy

Sample: 8th Grade students (with school duration of 1.5 years)

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Results

Value Added Analysis

Dependent Variable: Grade 8 Student Learning Assessment Score		
	Without Class's Average Grade 6 Exam Score	**With Class's Average Grade 6 Exam Score**
	(1)	**(2)**
Grade 6 Exam Score	0.332***	0.239***
	(0.014)	(0.015)
Poor	-0.163	-0.180
	(0.257)	(0.251)
Parent(s) has university degree	0.516**	0.278
	(0.253)	(0.247)
House to school travel time	-0.006***	-0.006***
	(0.002)	(0.002)
Motor Vehicle	0.395	0.410
	(0.349)	(0.340)
Male	-1.489***	-1.440***
	(0.220)	(0.215)
Take outside courses	0.493**	0.412*
	(0.237)	(0.231)
Class's Average Grade 6 Exam Score		0.461***
		(0.034)
_constant	33.203***	0.864
	(1.414)	(2.725)
R^2	0.59	0.61
N	3,629	3,629

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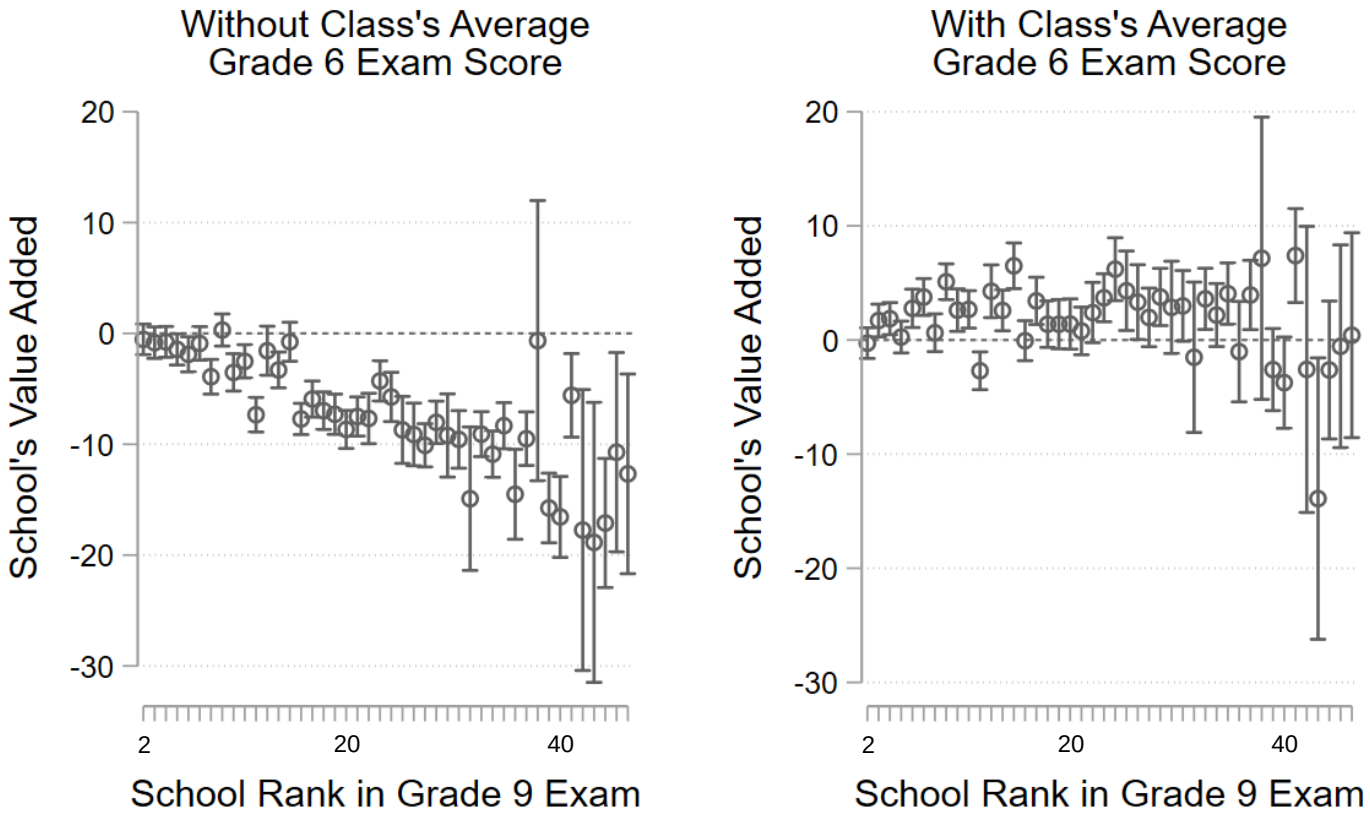
Value Added of Junior Secondary Schools



Reliable Model:
With Class's Average Grade 6 Exam Score

Change in school rank order in terms of value added, compared to Grade 9 Exam.

Now, schools with lower achievement in Grade 9 exam, turns out to have higher value added than the top ranked school in Grade 9 Exam.

*Note: All schools' value added are relative to the 1st ranked junior secondary school

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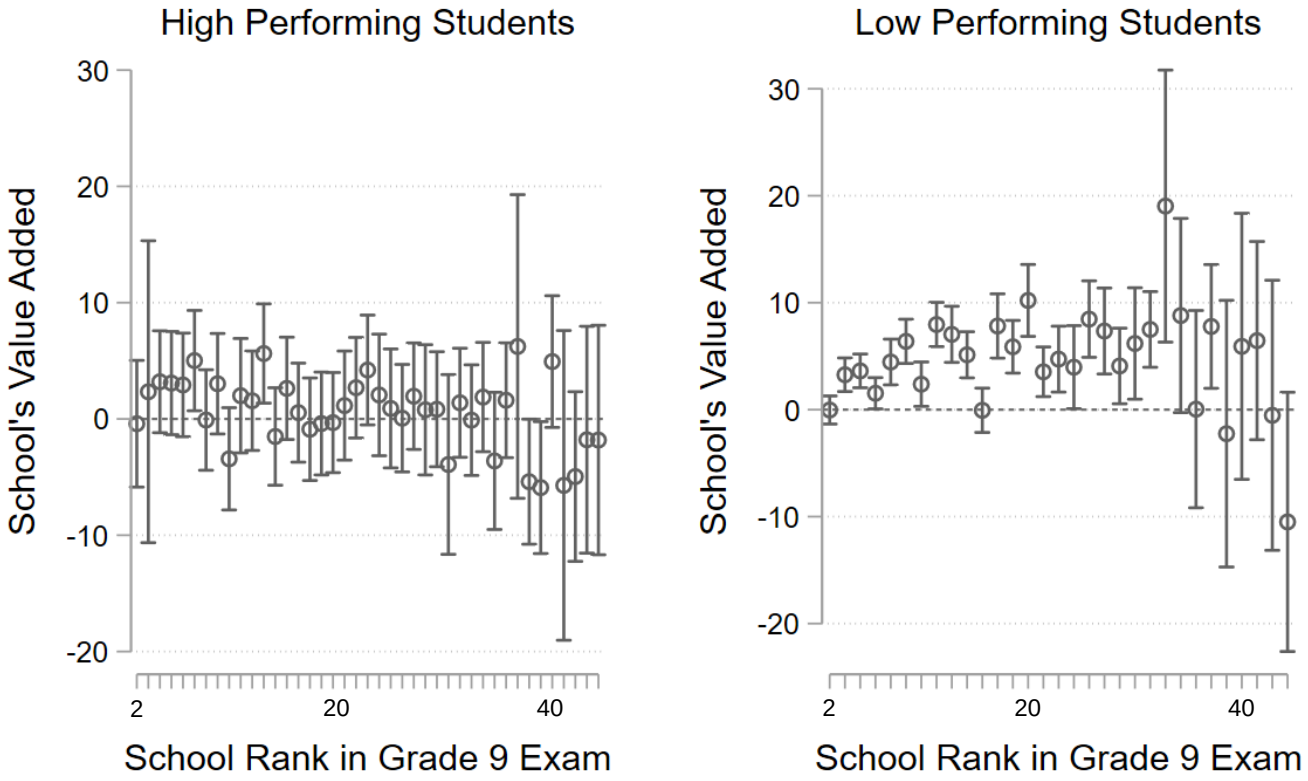
Heterogeneity



Based on:
Model with class's average grade 6 exam score.

Almost all schools contribute similarly towards the **high performing students** compared to the top ranked school in Grade 9 Exam.

Schools with lower Grade 9 Exam rank contribute more towards the **low performing students** compared to the top ranked school in Grade 9 Exam.

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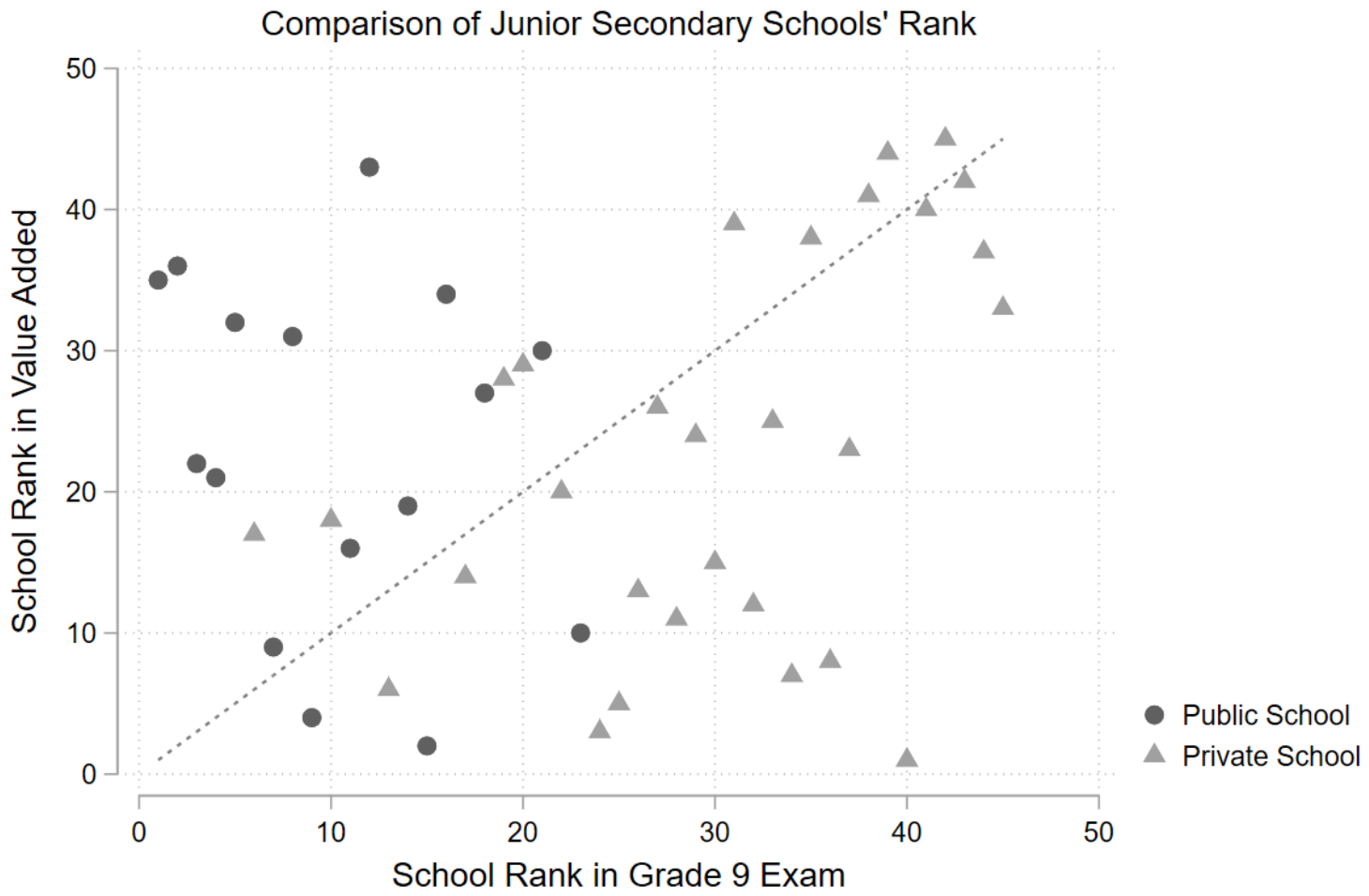
Public schools have lower school's value added than private schools



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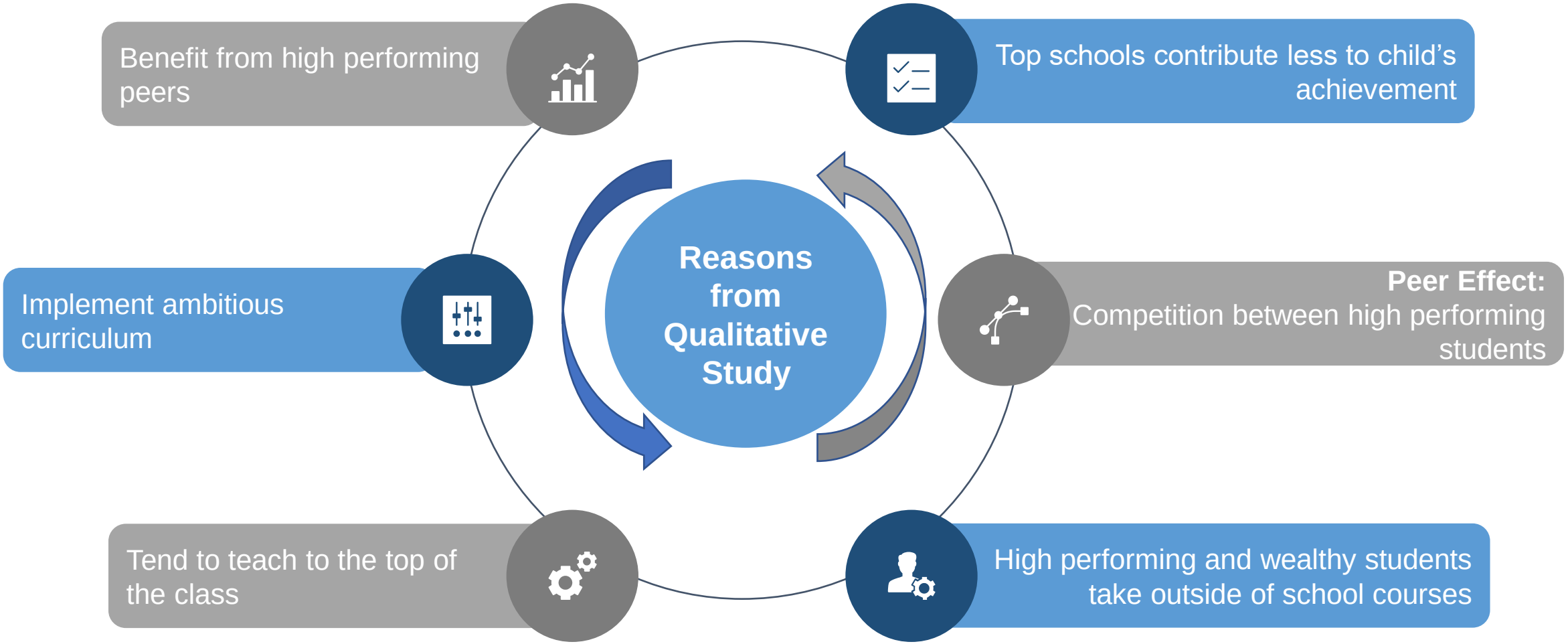
How come? What happens in the top schools?



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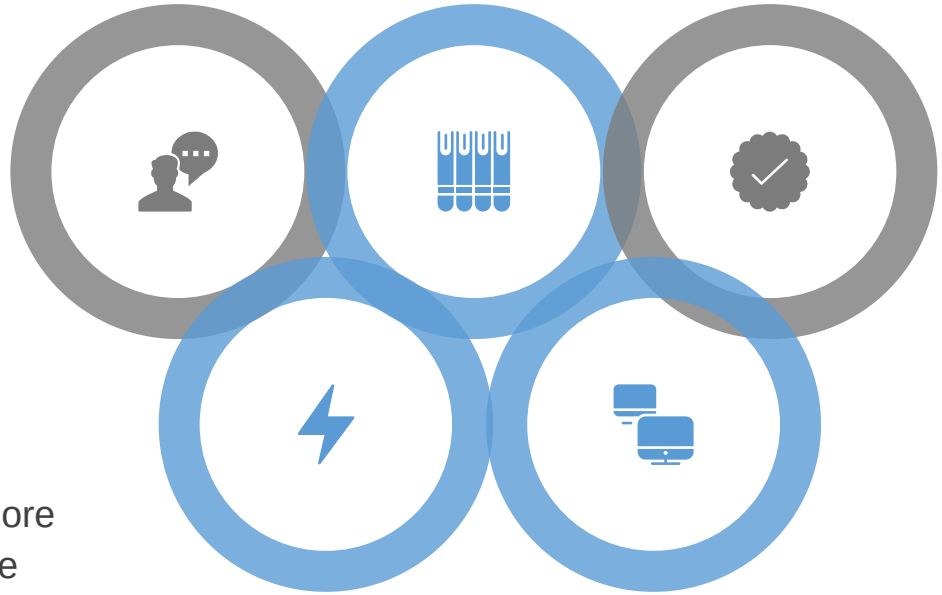
Characteristics of High Value Added Schools

- Full availability of main textbooks to be used by students.

- Teachers give more questions to students in class and provide more class discussion.



- More teachers have participated in capacity building.
- Teachers do self-development activities that are self-initiated: browse online to search for information and discuss learning in class with colleagues.

- Give more homework.
- Give more group assignment.
- Conduct project that lasts for more than a week, building on real life application.

- Use more supporting materials in teaching Math: encyclopedia, and projector.
- Use more supporting materials in teaching Indonesian Language: practice questions book, textbook, computer, dictionary, modelling tools, magazines/articles, novel, and projector.

Obtained from Teacher's Questionnaire

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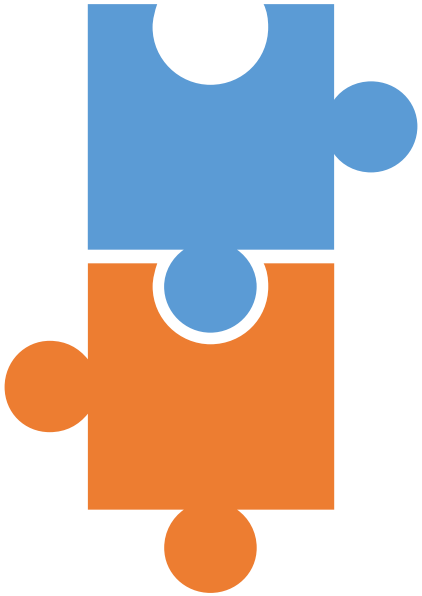
Conclusion

Conclusion

High performing students contribute to top schools' achievement

The benefit of acquiring high performing student intake, result in high achievement in the Grade 9 Exam score, rather than due to the school's own contribution.



Top favorite schools are not necessarily the good schools

Many schools with lower rank in Grade 9 Exam score contribute more to the overall and low performing students.

Thank You!

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