

# EDU forum

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## The plan:

story How to show the „parental effect”

tools Reproducible research with R

story Strong and weak sides of different countries

tools QR codes everywhere

story Students cognitive endurance vs. performance



# PISA MATH SCORE

600  
500  
400

•

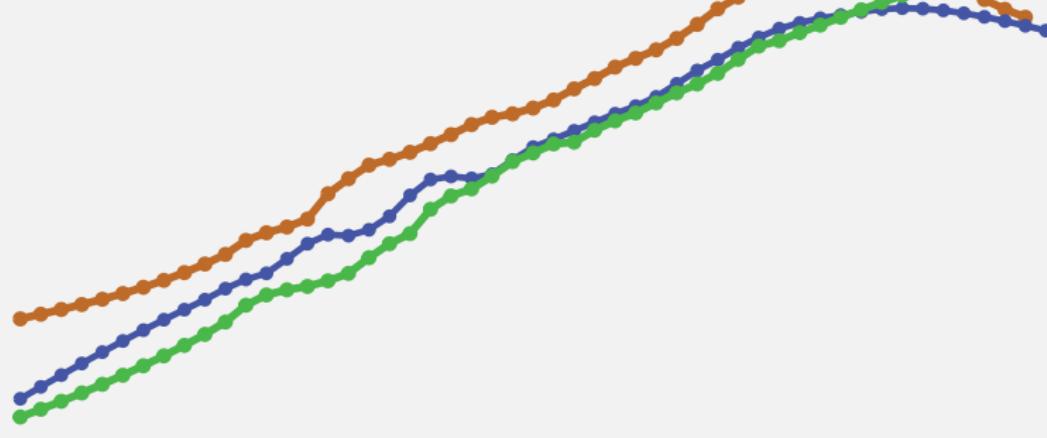
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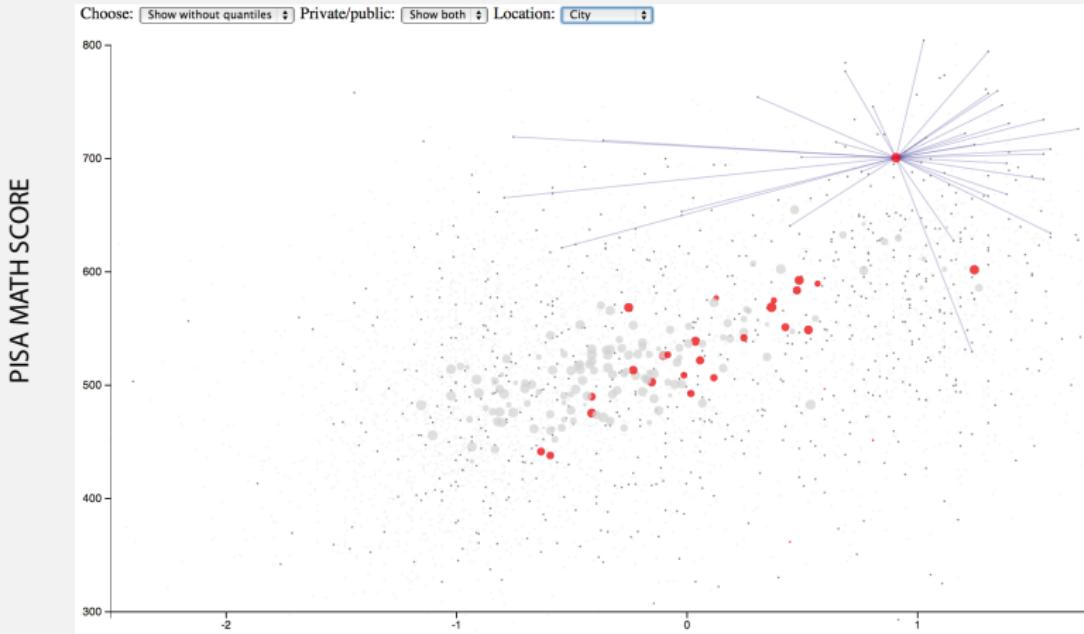
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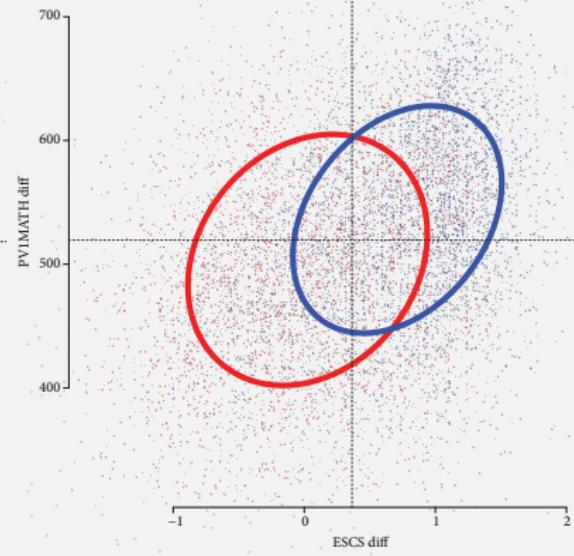
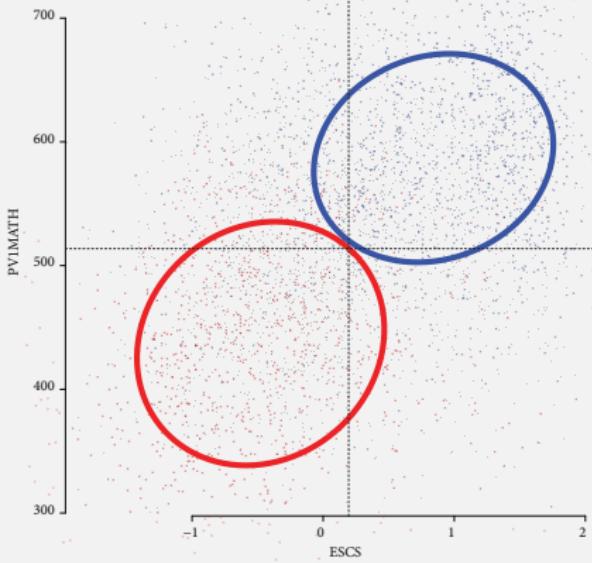
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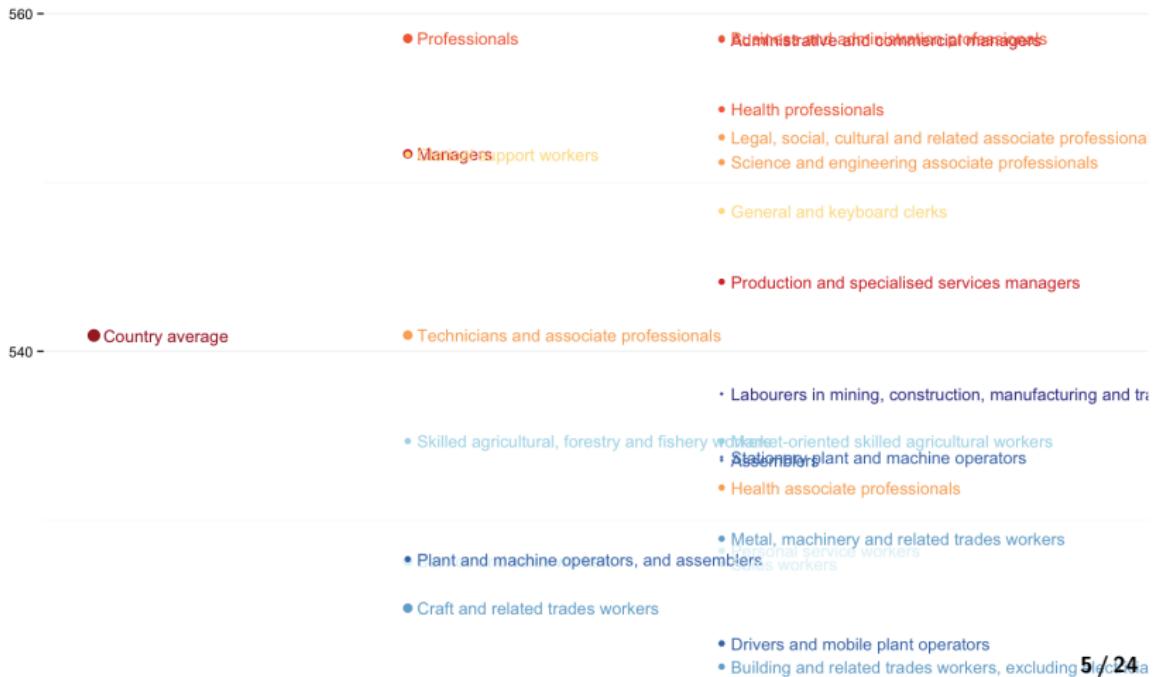




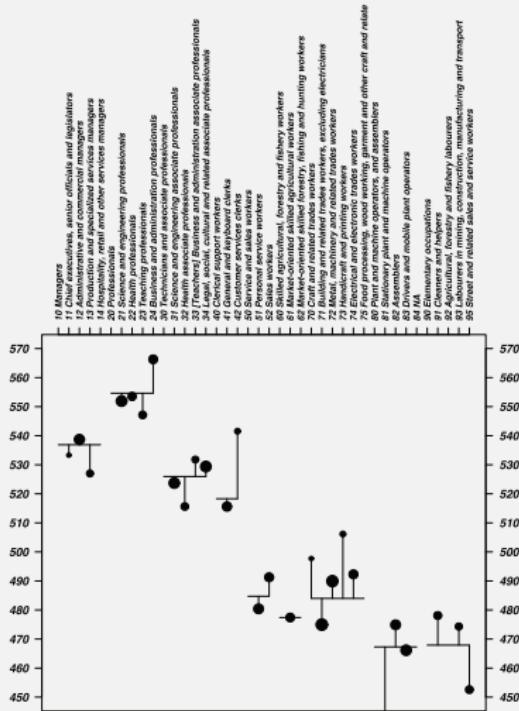


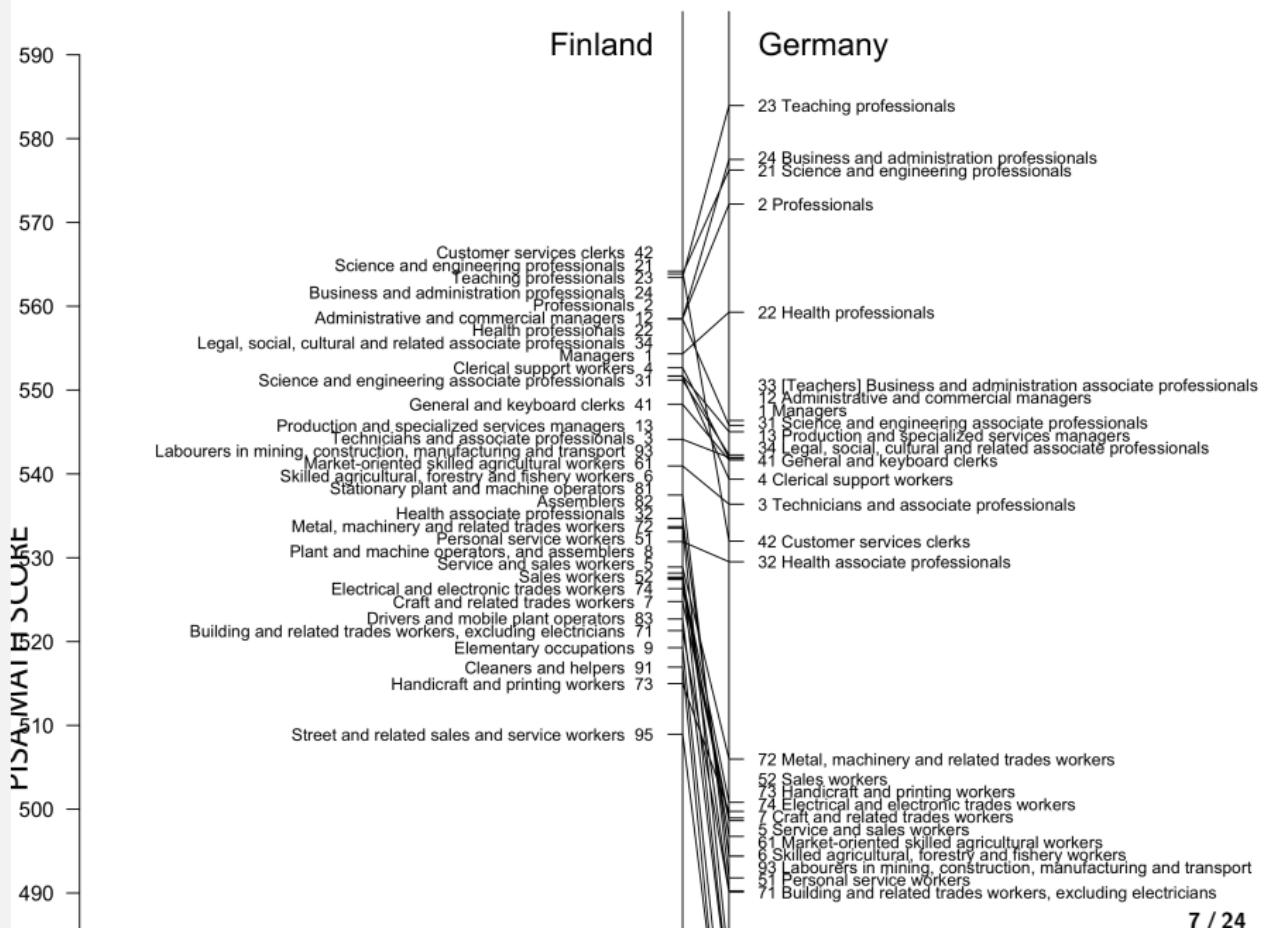
# PISA MATH SCORE

## MATH in Finland broken down along ISCO structure

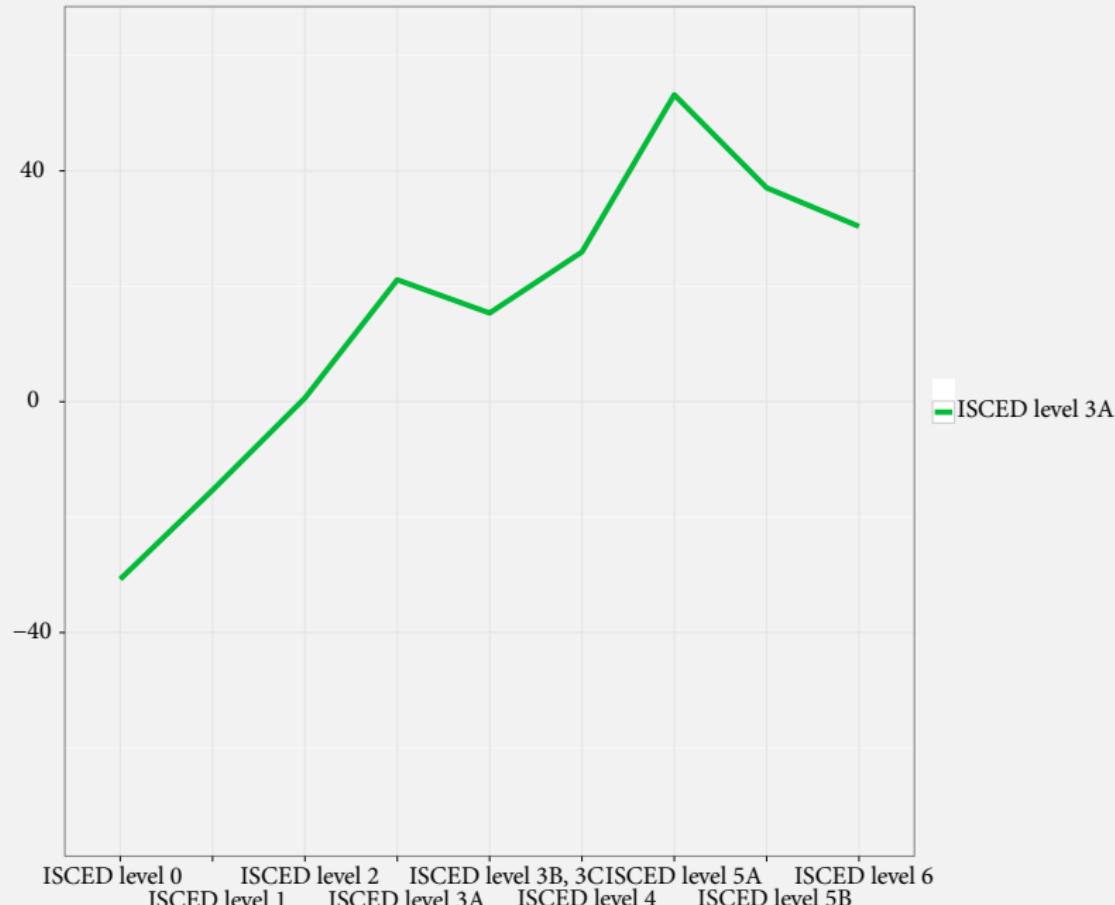


### PISA MATH SCORE

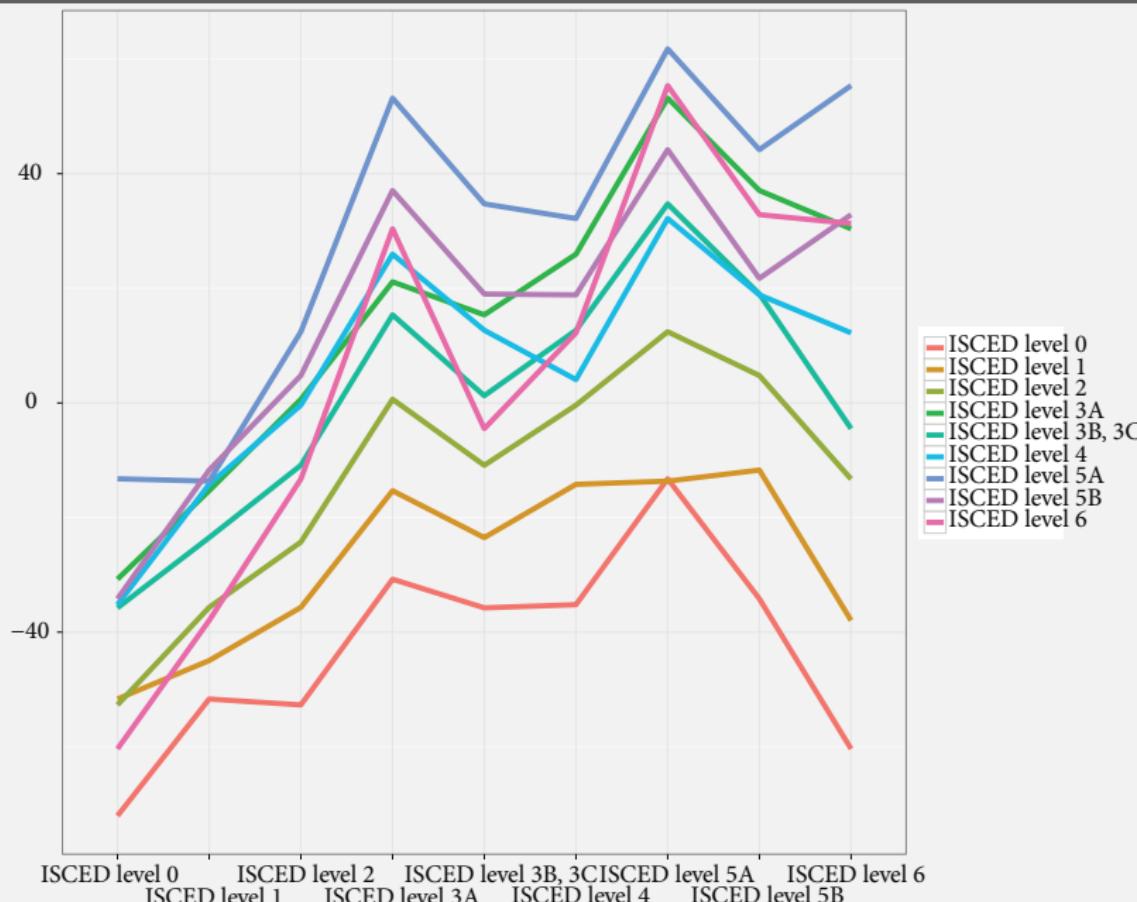


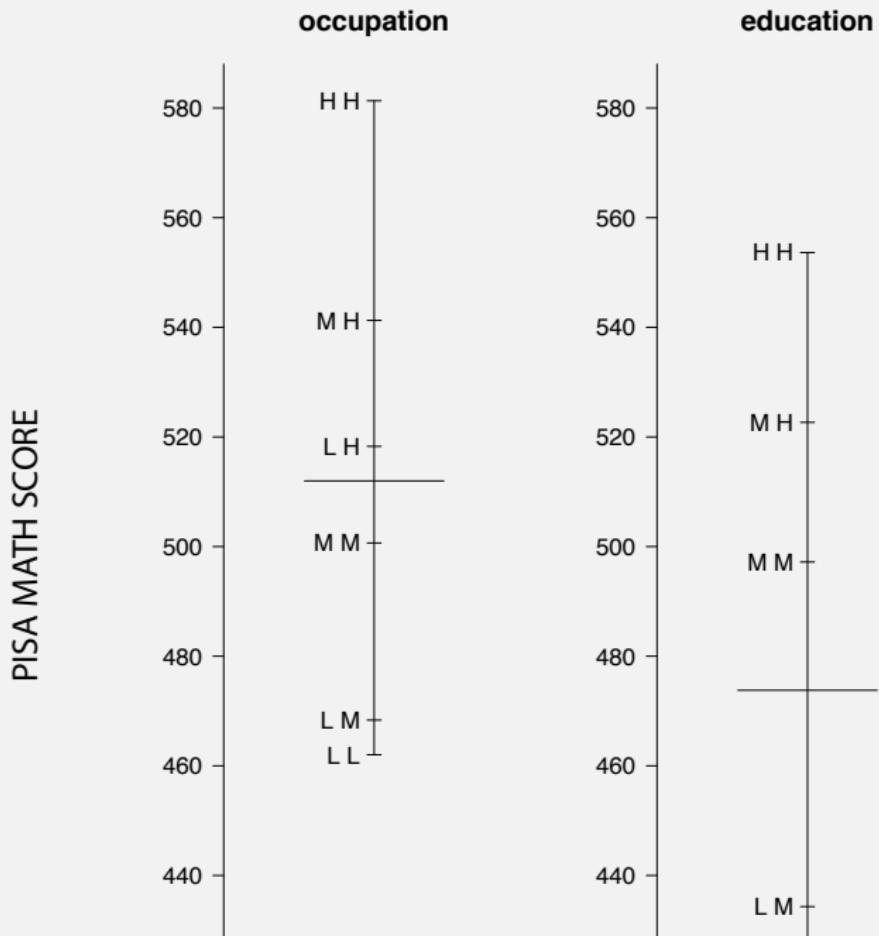


## PISA RELATIVE MATH SCORE



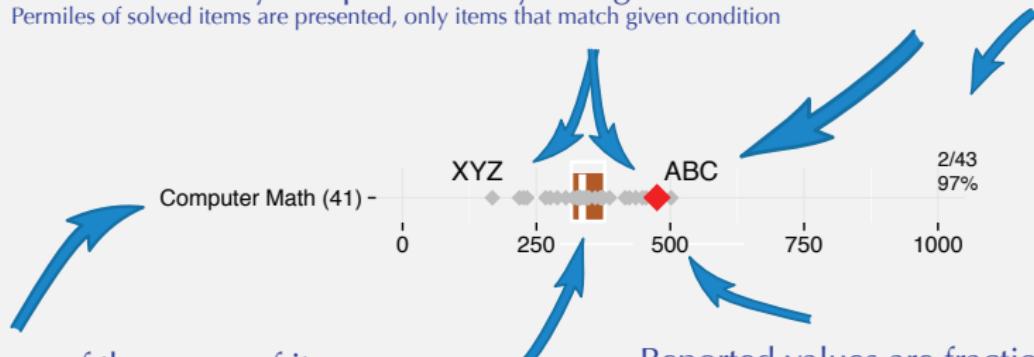
# PISA RELATIVE MATH SCORE





Red dot stands for selected country  
the number on the right is  
the country centile and position in the ranking

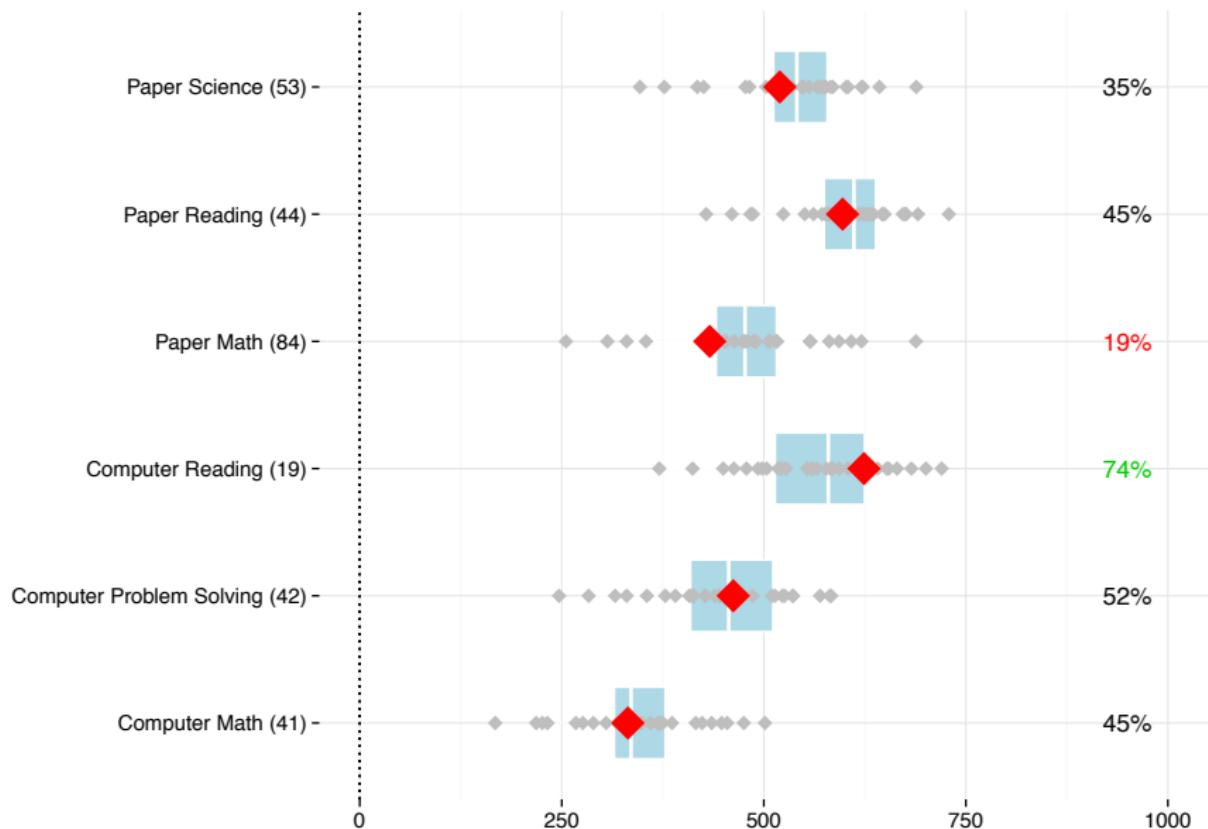
Each country is represented by a single dot  
Permiles of solved items are presented, only items that match given condition

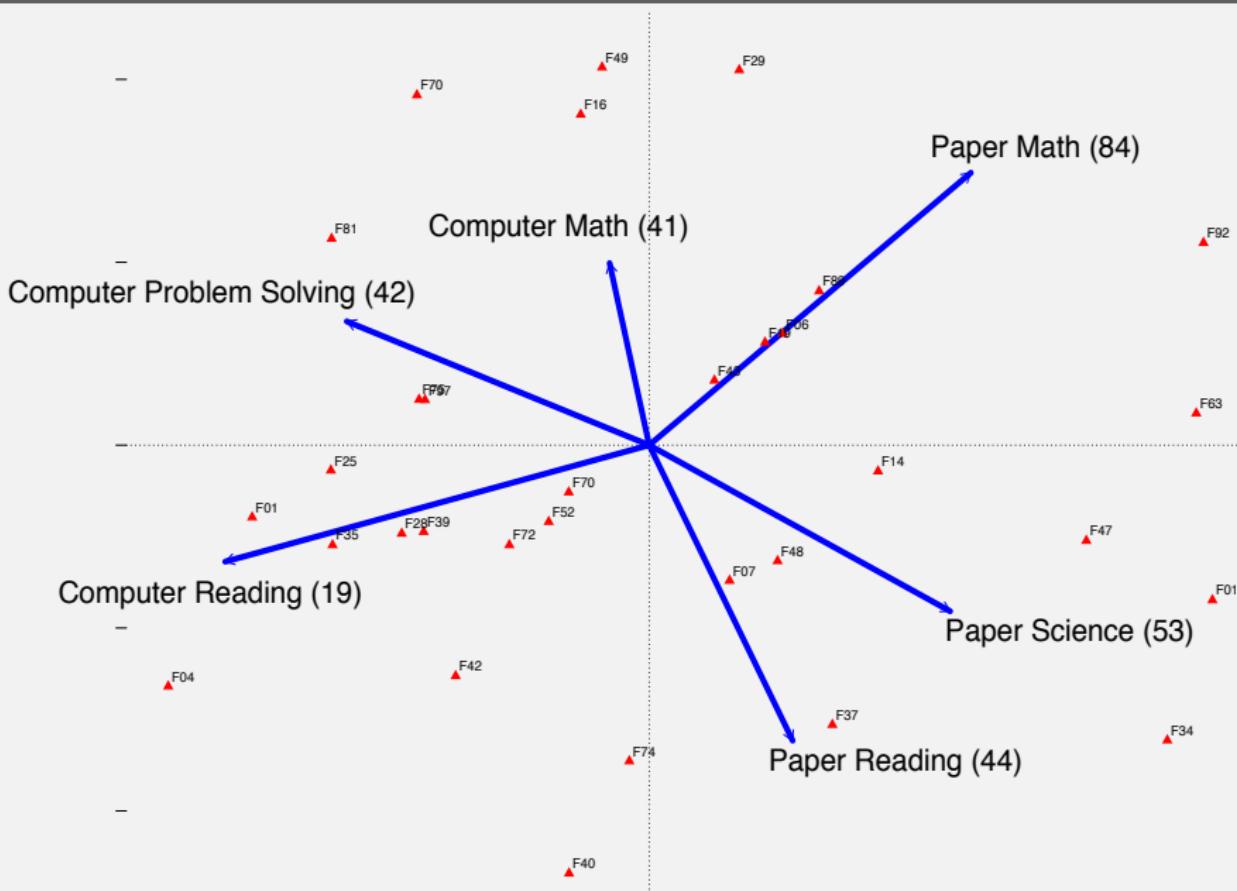


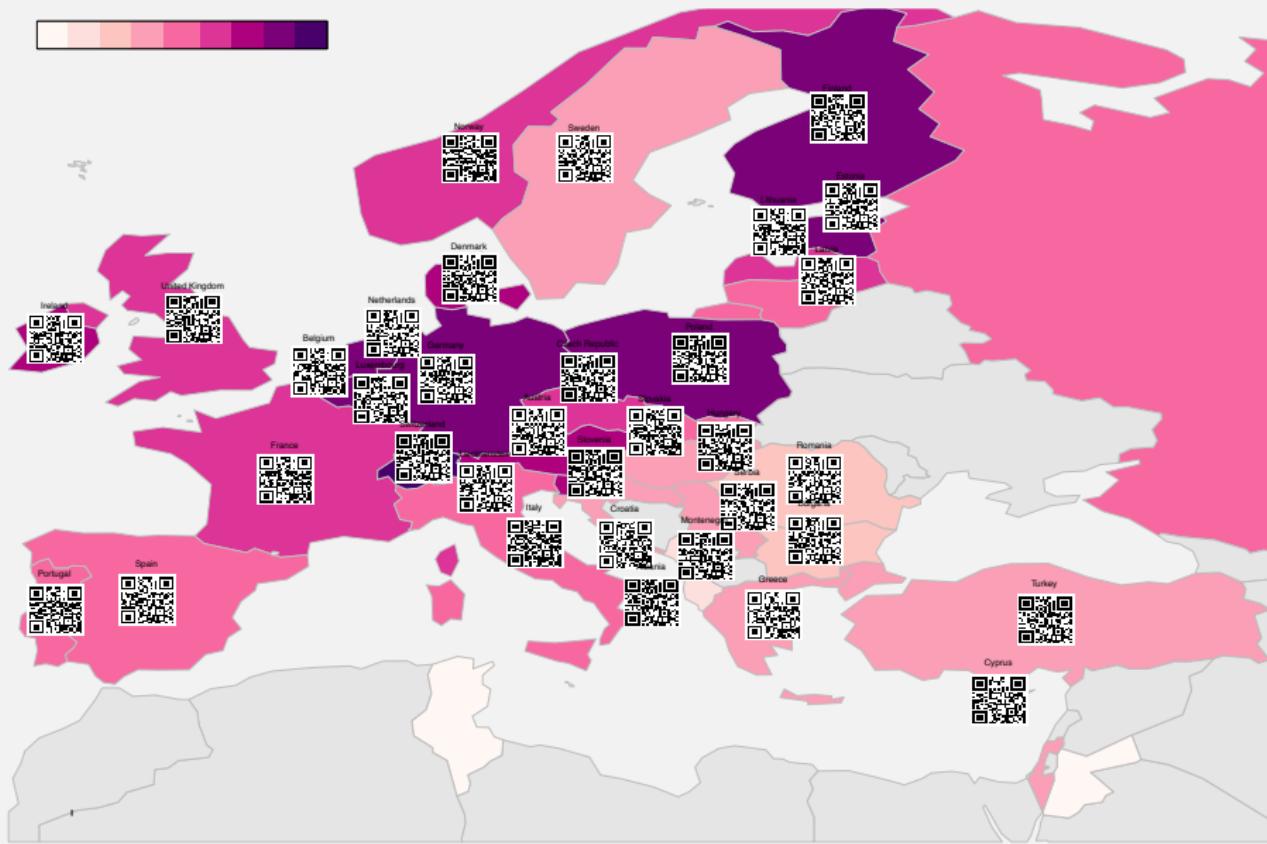
Name of the group of items  
(number of items in the group)

Reported values are fractions  $\times 1000$   
(permiles)

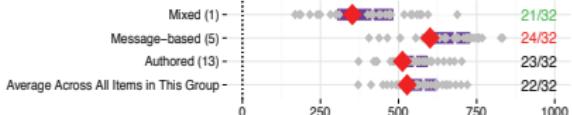
The box shows 25th and 75 centiles  
white line in the middle stands for median



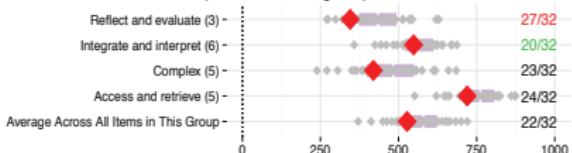




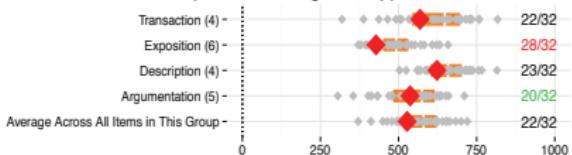
### Computer Reading Environment



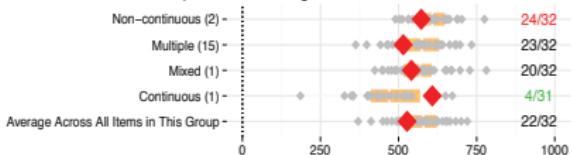
### Computer Reading Aspect



### Computer Reading Text Type



### Computer Reading Text Format



### Space and shape (12)

8/44

Social (30) -

8/44

### Simple Multiple Choice (18)

8/44

### Simple Multiple Choice (13)

6/44

Public (5) -

6/44

### Natural resources (11)

6/44

### Living systems (9)

8/44

### Exposition (16)

8/44

### Continuous (1)

4/31

### Constructed Response Manual (6)

8/44

### Constructed Response Manual (2)

8/44

### Complex Multiple Choice (16)

7/44

### Access and retrieve (10)

5/44

### Selected Response Variations (2)

24/32

### Scientific (8)

24/32

### Reflect and evaluate (3)

27/32

Public (10) -

26/32

### Non-continuous (2)

24/32

### Message-based (5)

24/32

### Exposition (6)

28/32

### Constructed Response Expert (5)

24/32

### Constructed Response Expert (4)

24/32

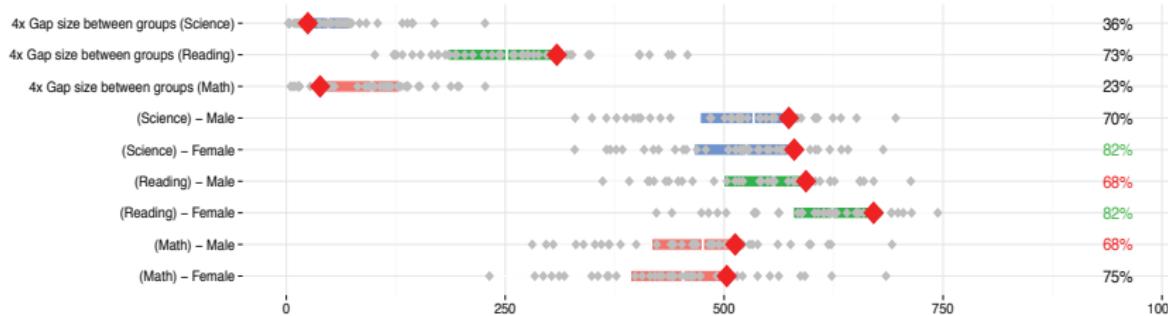
### Change and relationships (11)

25/32

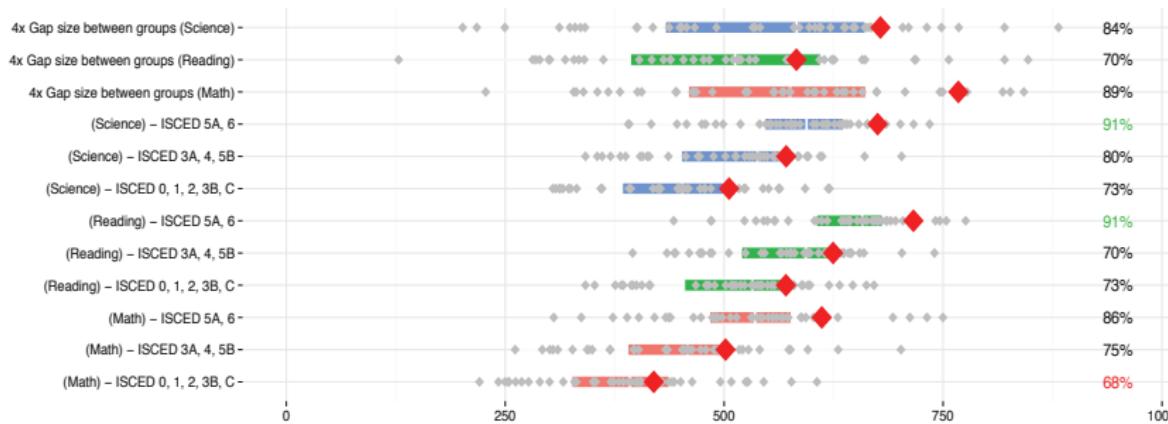
### Access and retrieve (5)

24/32

## Gender

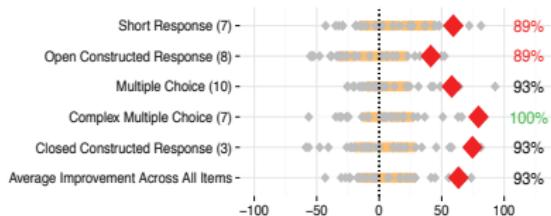
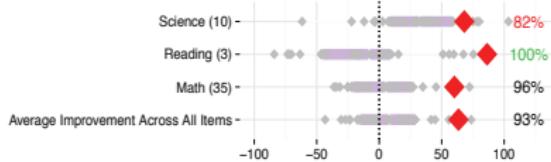


## Highest education

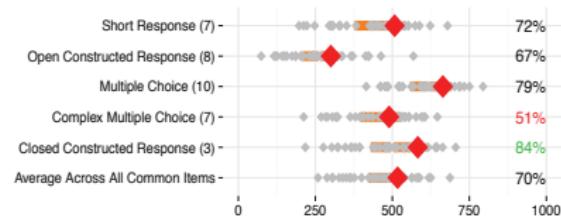
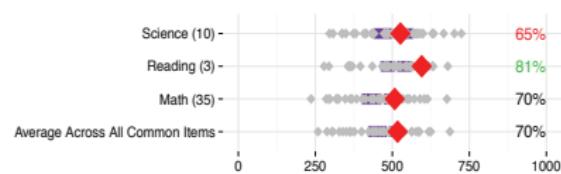
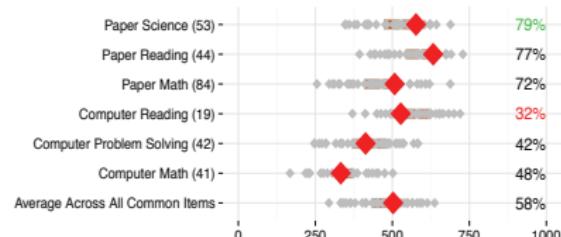


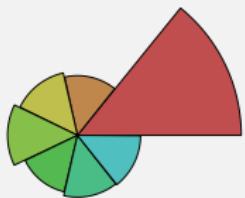


## Improvement 2012 – 2003

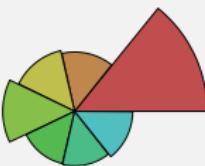


## Performance in 2012

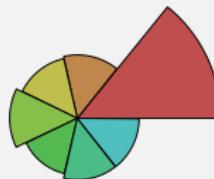




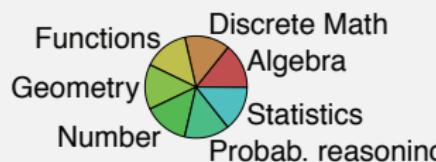
Singapore



Korea



Hong Kong–China



Peru



Japan



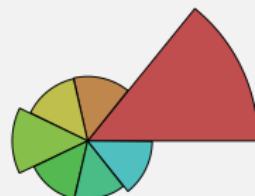
Denmark



Serbia



Russian Federation



Shanghai–China

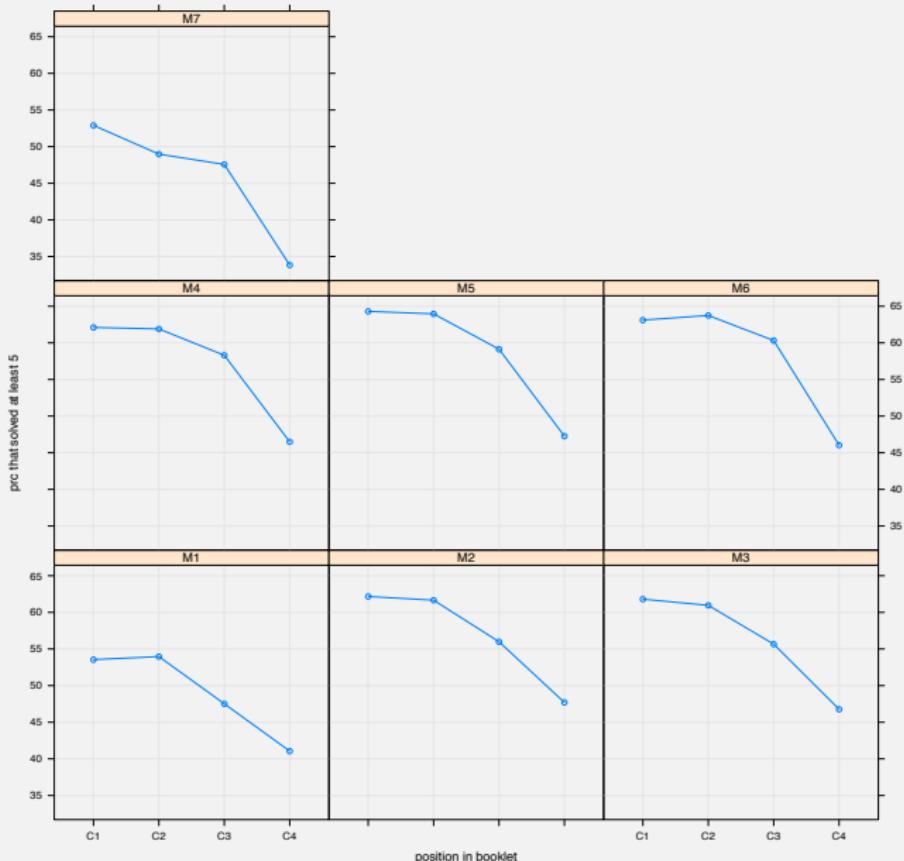
# Booklets design in different PISA studies

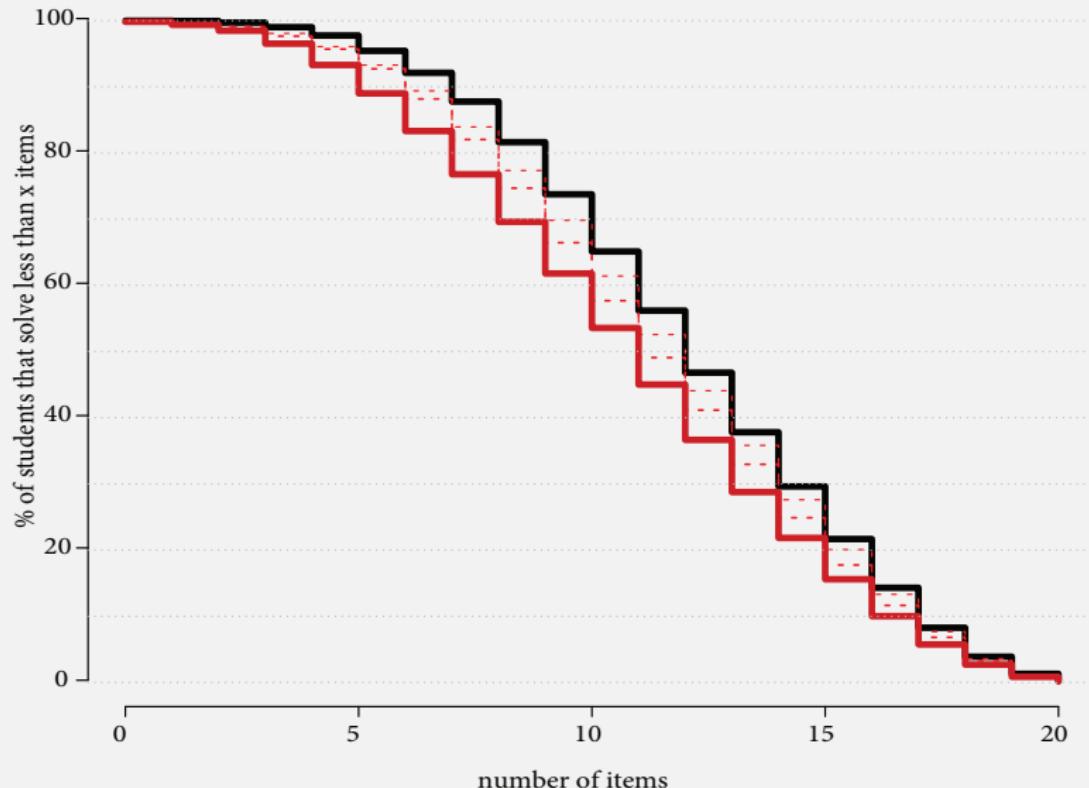
2000				
	Cluster 1	Cluster 2	Cluster 3	Cluster 4
1	R1	R2	R4	
2	R2	R3	R5	
3	R3	R4	R6	
4	R4	R5	R7	
5	R5	R6	R1	
6	R6	R7	R2	
7	R7	R1	R3	R8
8			R8	R9
9			R9	R8

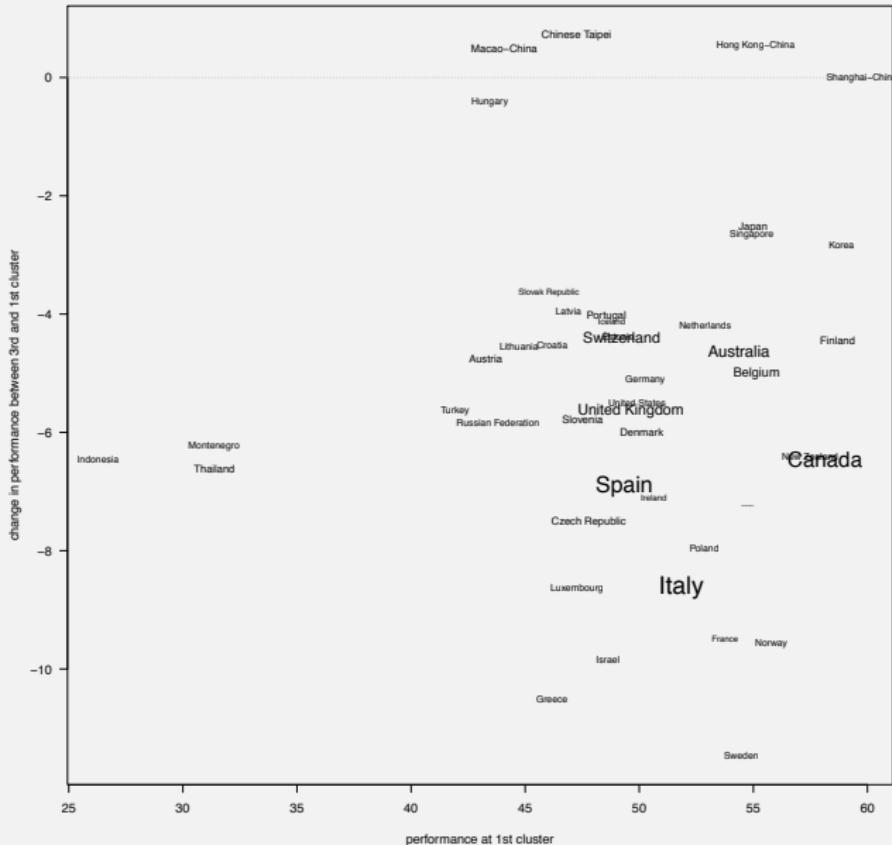
2003				
	Cluster 1	Cluster 2	Cluster 3	Cluster 4
1	M1	M2	M4	
2	M2	M3	M5	
3	M3	M4	M6	
4	M4	M5	M7	
5	M5	M6		M1
6	M6	M7		M2
7	M7			M3
8				M4
9				M5
10				M6
11			M1	M7
12			M2	
13	M1	M3		

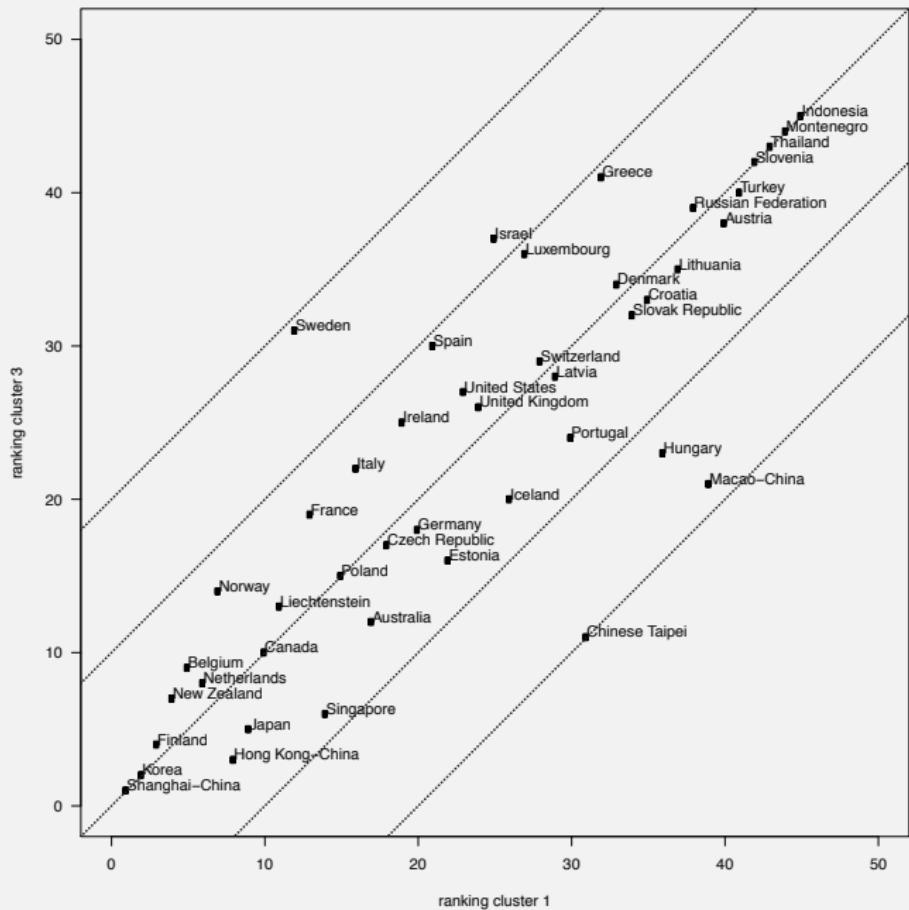
2009				
	Cluster 1	Cluster 2	Cluster 3	Cluster 4
1		R1	R3A	
2	R1		R4A	R7
3		R3A		
4	R3A	R4A		R2
5	R4A		R5	
6	R5	R6	R7	R3A
7	R6			R4A
8	R2			R6
9			R6	R1
10		R5		
11		R7	R2	
12	R7			
13		R2	R1	R5

2012				
	Cluster 1	Cluster 2	Cluster 3	Cluster 4
1	PM5		PM6A	
2			PM7A	
3		PM6A		PM3
4	PM6A	PM7A		PM4
5	PM7A		PM1	PM5
6	PM1	PM2		PM6A
7	PM2		PM3	PM7A
8			PM4	
9		PM3	PM5	
10	PM3	PM4		PM1
11	PM4	PM5		PM2
12			PM2	
13		PM1		









## Variables that correlate with student's endurance

2003	2009	2000
Talking about books – Q35c		
Sex – Q3	Sex	Sex Q3
Favourite hobby – Q35b	Read Attitude – Favourite hobbies	Interested in Students Q26b
Feel happy – Q35e	Read Attitude – Happy as present	Late for school Q28
Enjoy library – Q35g	Read Attitude – Enjoy library	Well with Students Q26a
Waste of time – Q35f	Read Attitude – Talk about books	Lesson can't work well Q38i
Doing nothing – Q26q	Read Attitude – Waste of time	Listen to me Q26c
For information – Q35h	Read Attitude – Exchange	Give extra help Q26d
Only if I have to – Q35a	Read Attitude – Only if I have to	Lesson late start Q38k
Reading fun – CC2/34	Reading Enjoyment Time	Learn_important parts Q34a
How many books at home – Q37	Read Attitude – Need information	ISCED Orientation
Homework <maths> – Q33b	Read Attitude – Cannot sit still	Possessions literature Q17h
Read each day – Q34	Summary – Copy accurately	Country of birth Father Q15a_c
Quickly in most – CC2/31	Text – Summarise	School useful Q24d
I complete on time – Q32a	Summary – Write own words	Learn_exactly Q34l
Good most – CC2/35	Read Attitude – Hard to finish	Attitude further study Q30g
Homework <test lang> – Q33a	Read Attitude – Express opinions	Attitude career Q30e
Hard to finish – Q35d	Study – Important Points	School done little Q24a
Sport – Q18f	How many books at home	Treat me fairly Q26e
Best to acquire – CC1/20	Like Read – Fiction	School waste of time Q24b
	Summary – Check important facts	Attitude job Q30h