

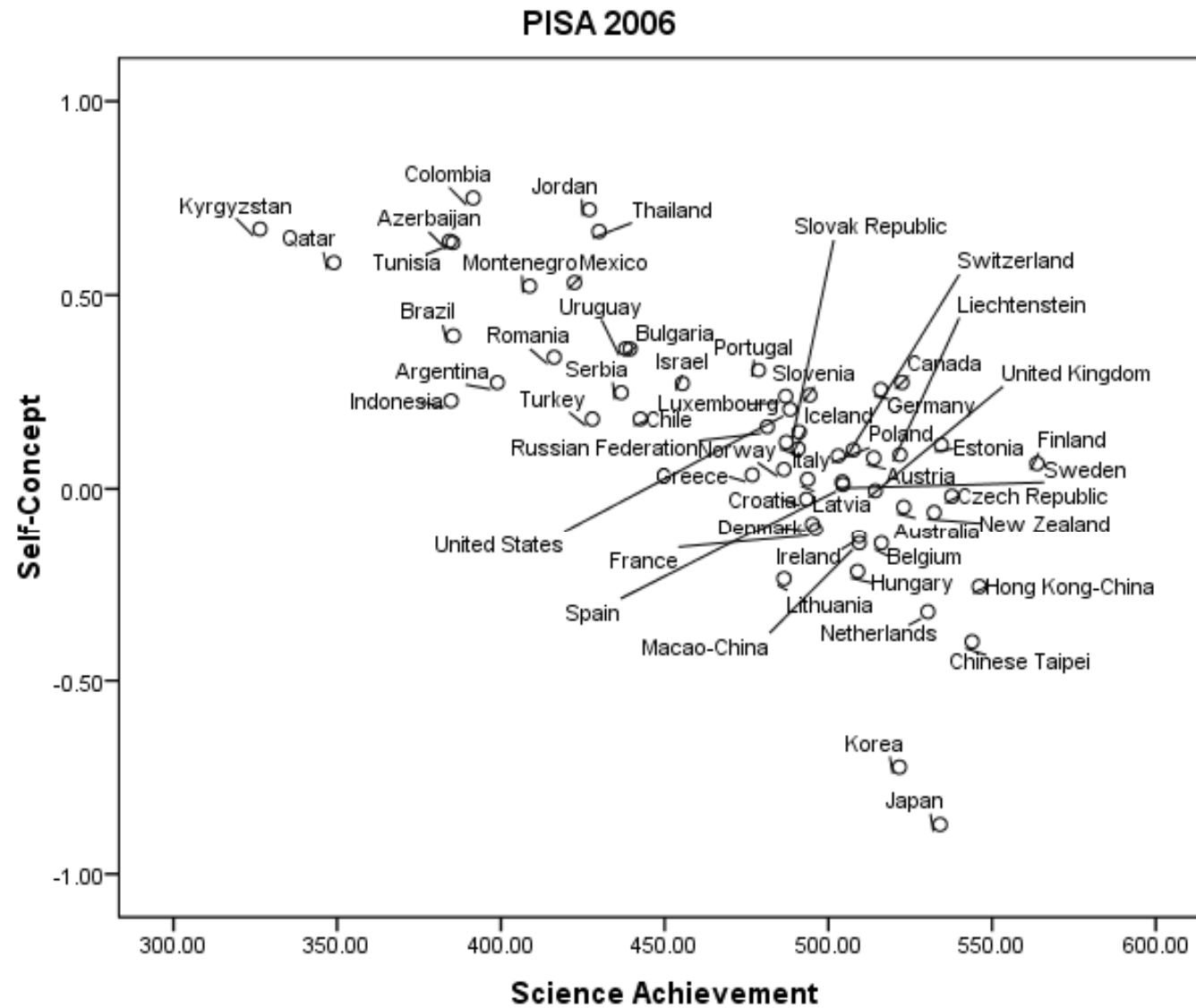


The Relationship between Achievement and Self-concept:

A cross-country investigation

Eva Van de gaer
Eveline Gebhardt
Wolfram Schulz

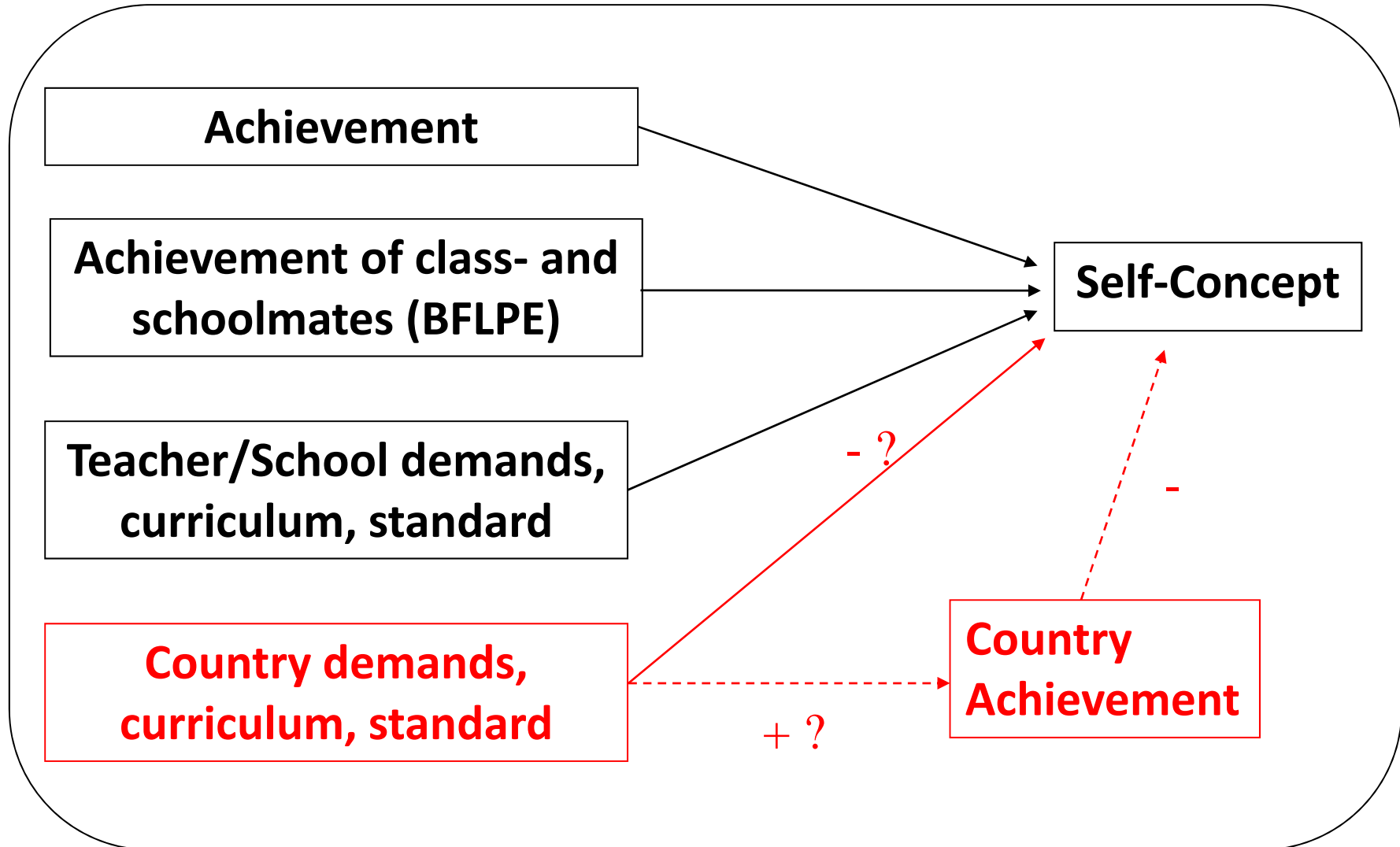
Australian Council *for* Educational Research



Correlation:

- countries: $-.76$
- schools: $+.10$
- students: $+.24$
(within schools)

Literature (1)



Literature (2)



- What happens to self-evaluations when countries differ in educational standards or norm?
- Example: Judgment of height (Heine et al., 2002)

Literature (3)

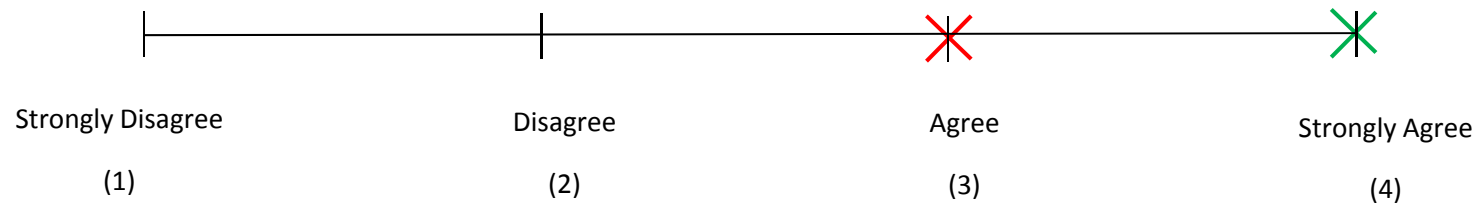


“I am very tall”

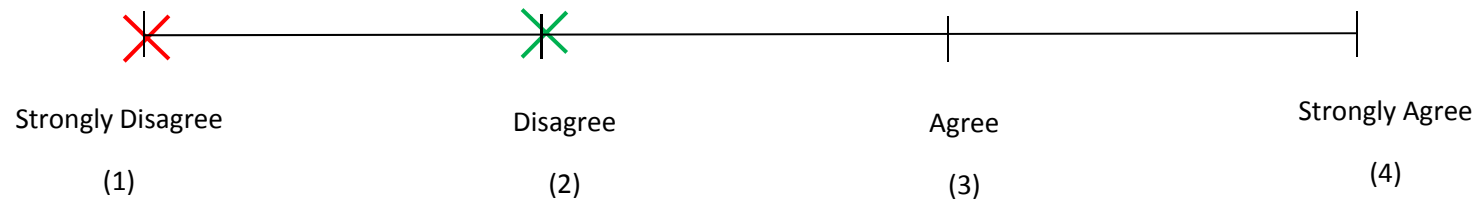
Person A measures 1m70

Person B measures 1m80

Country X: mean height is 1m60



Country Y: mean height is 1m90



→ **Person A feels taller** in country X than **person B** in country Y
but **person A** (1m70) is **less tall** than **person B** (1m80)

Literature (4)



- Explanation of negative correlation at the country-level:
 1. Reference group effect
 2. Alternative explanation: response bias
Modesty bias: East-Asians have the tendency to respond towards the midpoint of the Likert scale on items tapping positive emotions

Research Questions



1. Countries with high educational standards will have lower mean self-concept scores
2. The negative effect of country educational standards is *mediated* by country mean achievement.
3. We expect that East-Asian countries will have a lower self-concept even after controlling for educational standards and country mean achievement

Data and Analytical Approach



- PISA 2006 - science achievement
- Measures of educational standards:
 - Quality of educational resources
 - Learning time in science
 - Teacher shortage
 - Education index (United Nations)
- Multilevel analyses: 3 levels



Results: country-level (1)

	Model 1	Model 2	Model 3	Model 4
Education Index	-			
Quality of Ed. Resources	-			
CNT_ESCS				
CNT_Achievement				
EAST ASIA				



Results: country-level (1)

	Model 1	Model 2	Model 3	Model 4
Education Index	-	-		
Quality of Ed. Resources	-	-		
CNT_ESCS		/		
CNT_Achievement				
EAST ASIA				



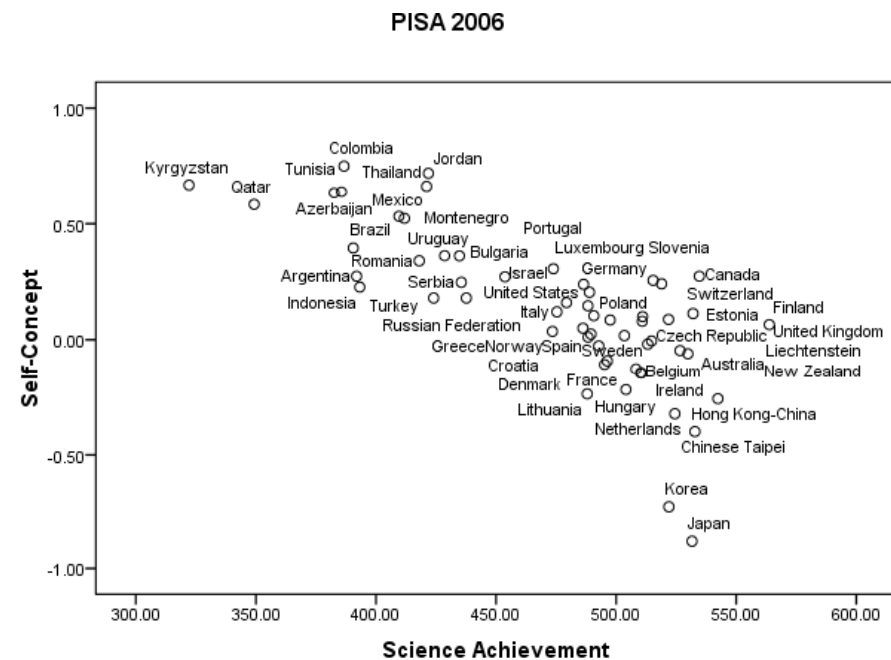
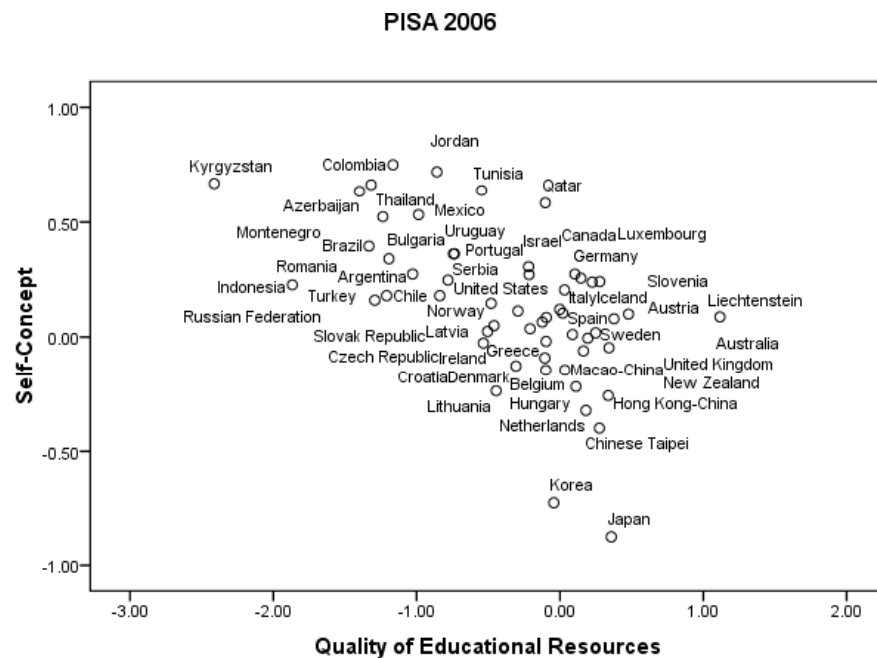
Results: country-level (1)

	Model 1	Model 2	Model 3	Model 4
Education Index	-	-	/	
Quality of Ed. Resources	-	-	/	
CNT_ESCS		/	/	
CNT_Achievement			-	
EAST ASIA				

mediation



Results: country-level (1)





Results: country-level (1)

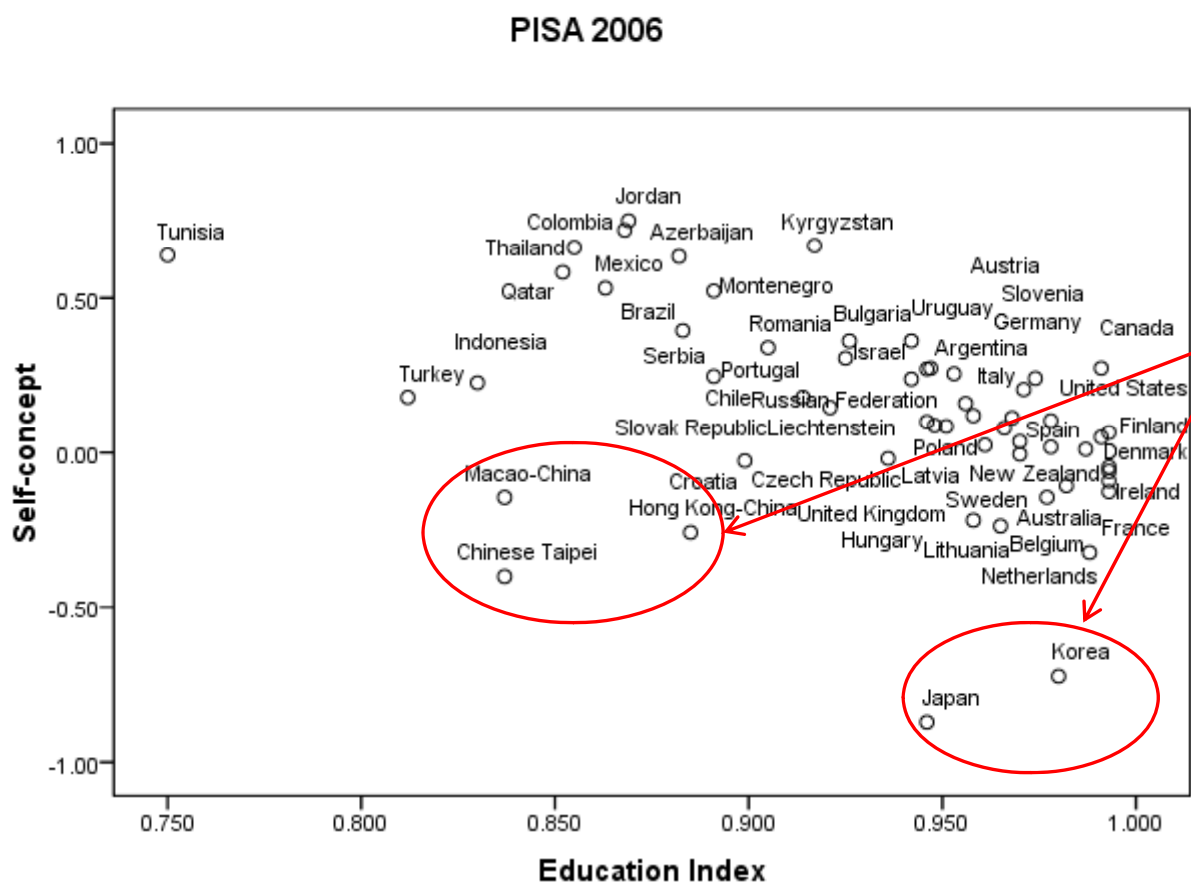
	Model 1	Model 2	Model 3	Model 4
Education Index	-	-	/	-
Quality of Ed. Resources	-	-	/	/
CNT_ESCS		/	/	/
CNT_Achievement			-	/
EAST ASIA				-

no unique effect of country mean achievement

effect of Education index becomes significant after including East-Asia



Results: country-level (1)



East-Asian countries

Results: Explained variance



	student	school	country
Nulmodel (variance)	85% (0.794)	4% (0.033)	12% (0.108)

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	student	school	country
Nulmodel (variance)	85% (0.794)	4% (0.033)	12% (0.108)
Variance explained:			
Final Model (variance)	11% (0.705)	18% (0.027)	71% (0.031)



Conclusion and Discussion (1)

- Reference group effects are important to take into consideration in cross-cultural research; especially when the norms or standards are different between countries
- Implication: this effect will be present in any questions or construct that ask for self-evaluation



Conclusion and Discussion (2)

- Possible solutions?

Include the norm/standard in the question

Example 1: vignettes

Example 2: self-efficacy



Conclusion and Discussion (3)

- Examples of self-efficacy items:

“How easy would it be for you to perform the following tasks on your own?”

1. *“Explain why earthquakes occur more frequently in some areas than in others?”*
2. *“Describe the role of antibiotics in the treatment of disease”*

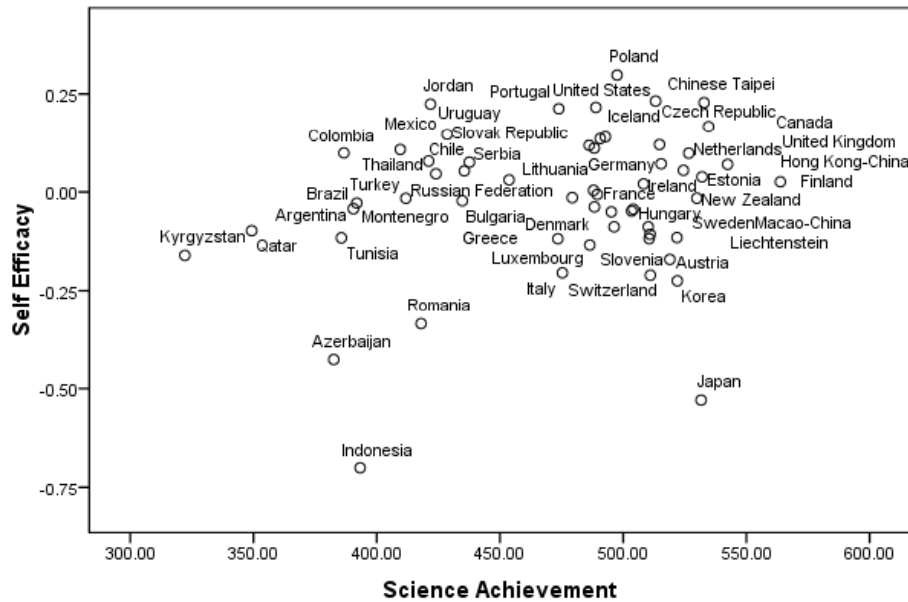
- Examples of self-concept items:

1. *“I learn school science topics quickly”*
2. *“When I am being taught school science, I can understand the concepts very well”*



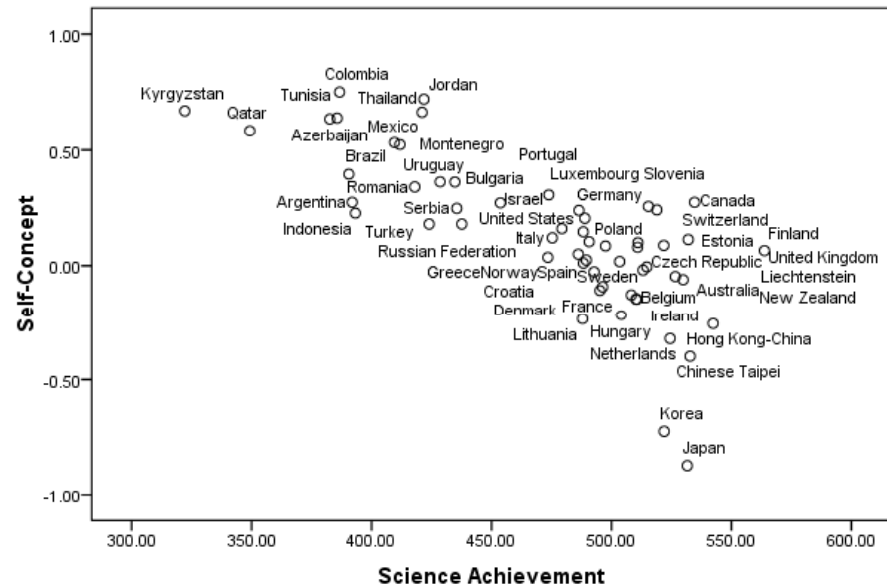
Conclusion and Discussion (4)

PISA 2006



$$r = +.21$$

PISA 2006



$$r = -.76$$



Thank you for your attention!

Vandegaer@acer.edu.au