

Analysing the large scale international comparative data from the student assessments PISA and TIMSS



MINISTRY
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Ministry for Foreign
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Content



What PISA actually measures?



A short interactive introduction to analysing PISA 2018 data?



Showing an analysis which reveal the nature of PISA and TIMSS and what kind of classroom activities provide good PISA results.



Graphical presentations of multilevel modelling results



An experience how to build a research around LINCAS Studies



Examples of thesis



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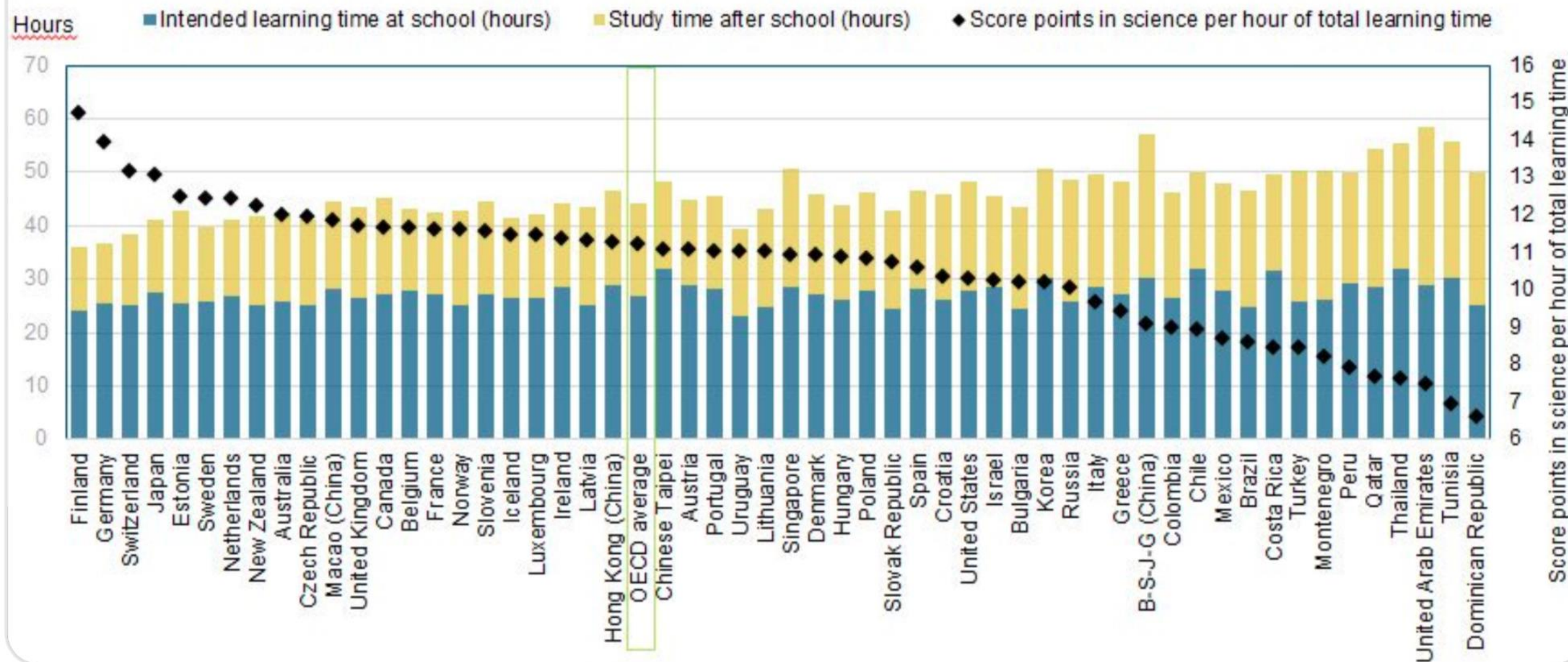


What PISA actually measures?

The Quality of Education system or something else?

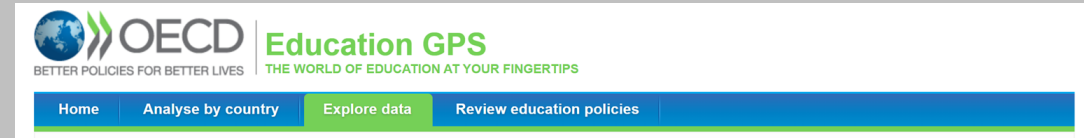
- The PISA mathematical and scientific literacy test asks students to apply their knowledge to solve **problems set in real-world contexts**. To solve the problems students must activate a number of mathematical competencies as well as a broad range of mathematical content knowledge. TIMSS, on the other hand, measures more traditional classroom content such as an understanding of fractions and decimals and the relationship between them (curriculum attainment). **PISA claims to measure education's application to real-life problems and lifelong learning (workforce knowledge).**
- A mathematically literate student recognises the role that mathematics plays in the world in order to make well-founded judgments and decisions needed by constructive, **engaged and reflective citizens.**
- ... key knowledge and skills that are essential **for full participation in modern societies.**
- **... can apply that knowledge in unfamiliar settings, both in and outside of school.**

Learning time and science performance



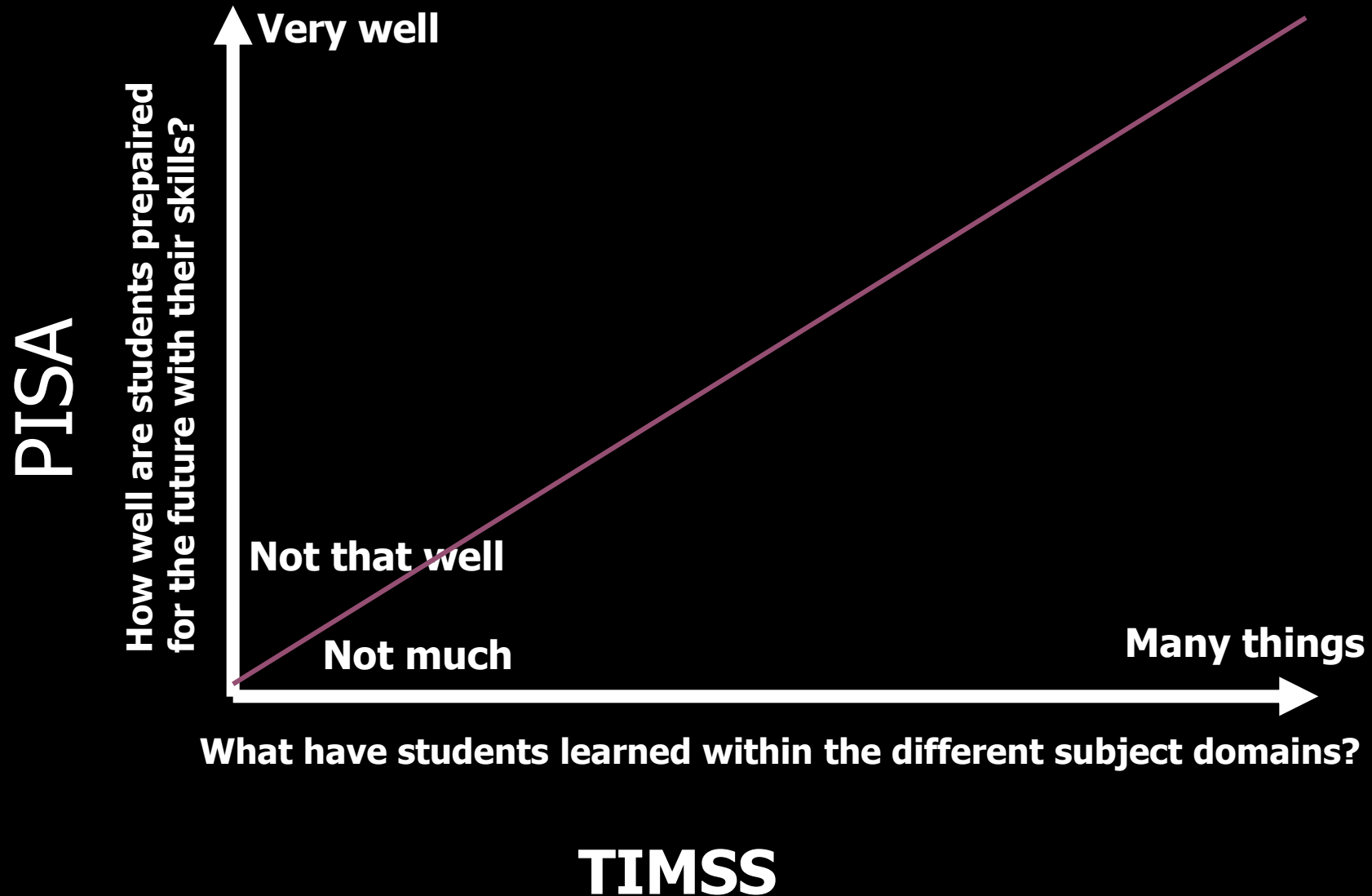
You as an analyst!

- <http://gpseducation.oecd.org/>

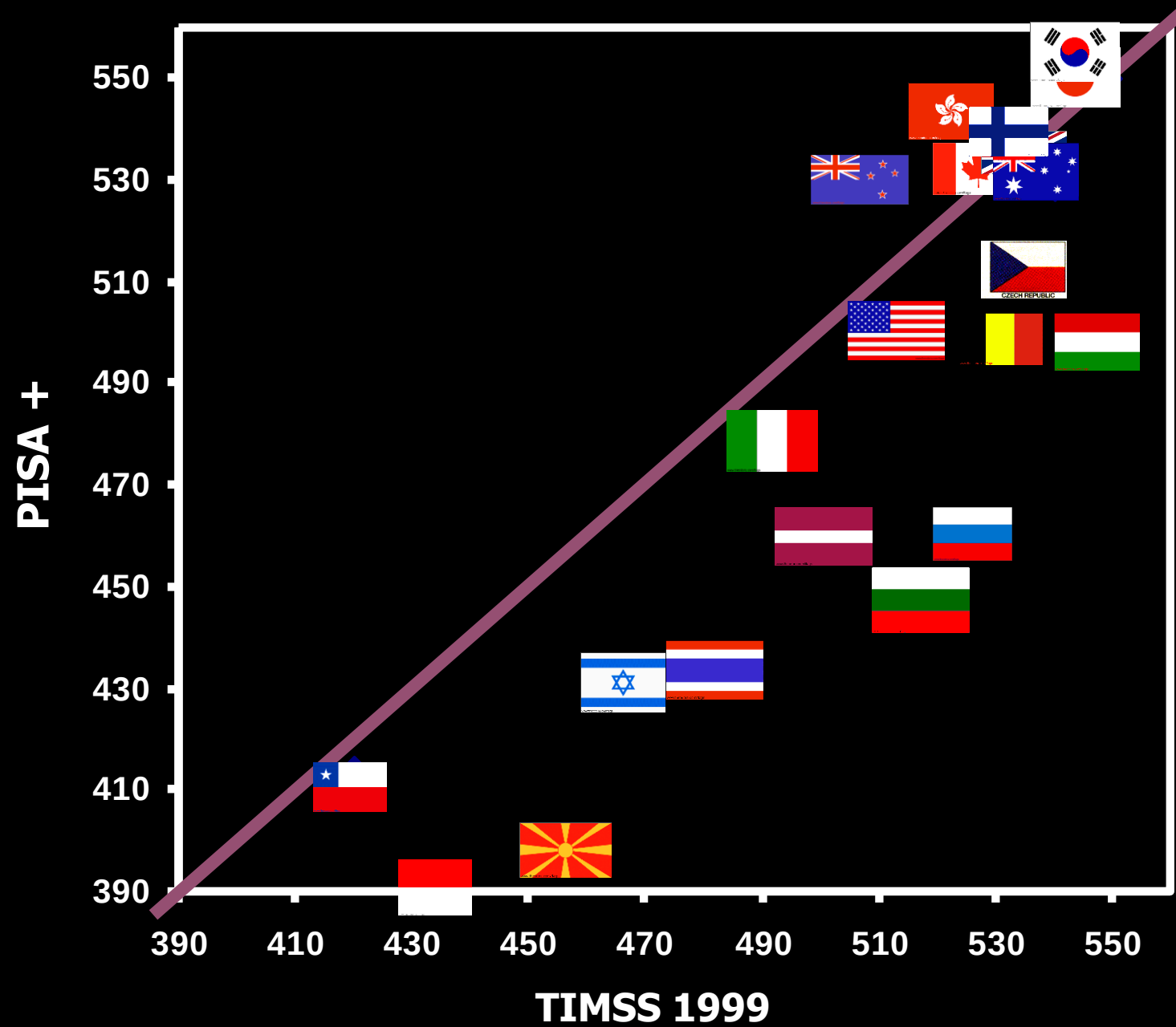


Showing a basic analysis which reveal the nature of PISA and TIMSS and what kind of classroom activities provide good PISA results.

Comparison of TIMSS and PISA Results

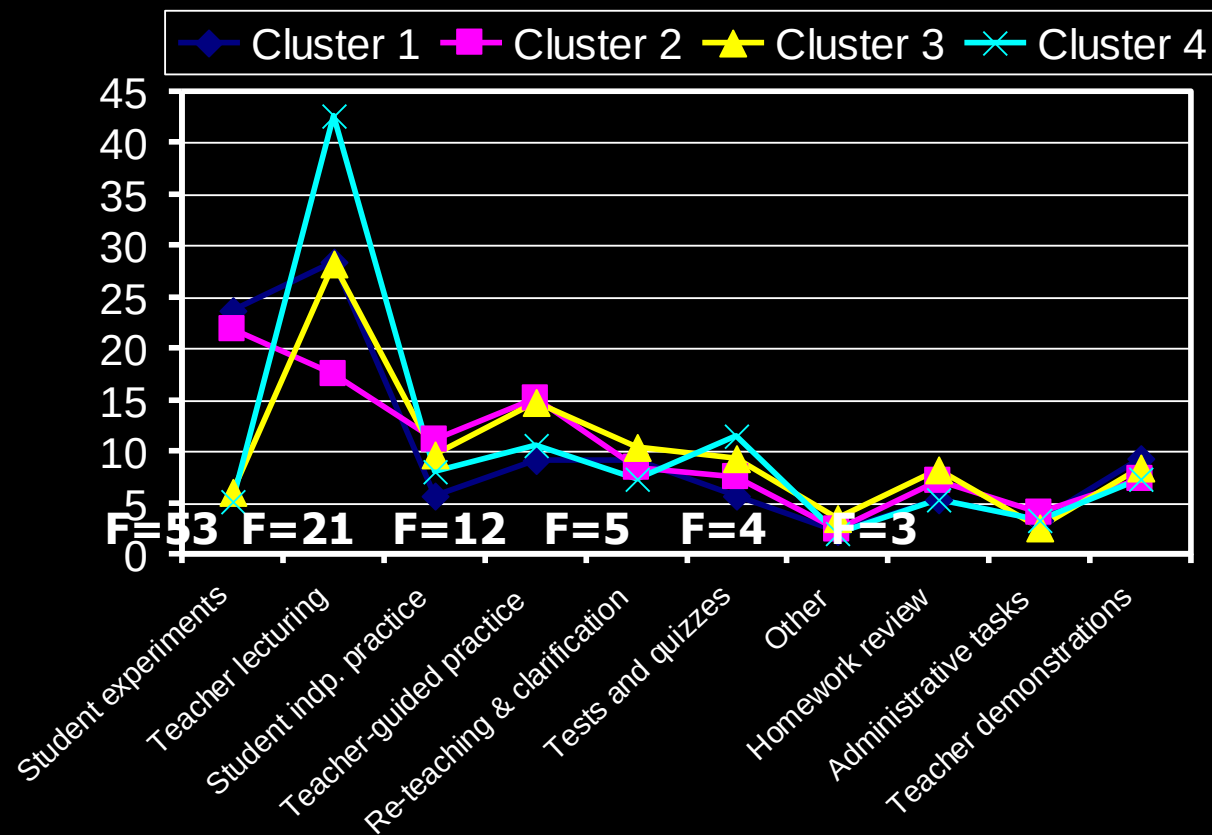


Science scores in TIMSS 1999 ja PISA 2000 +

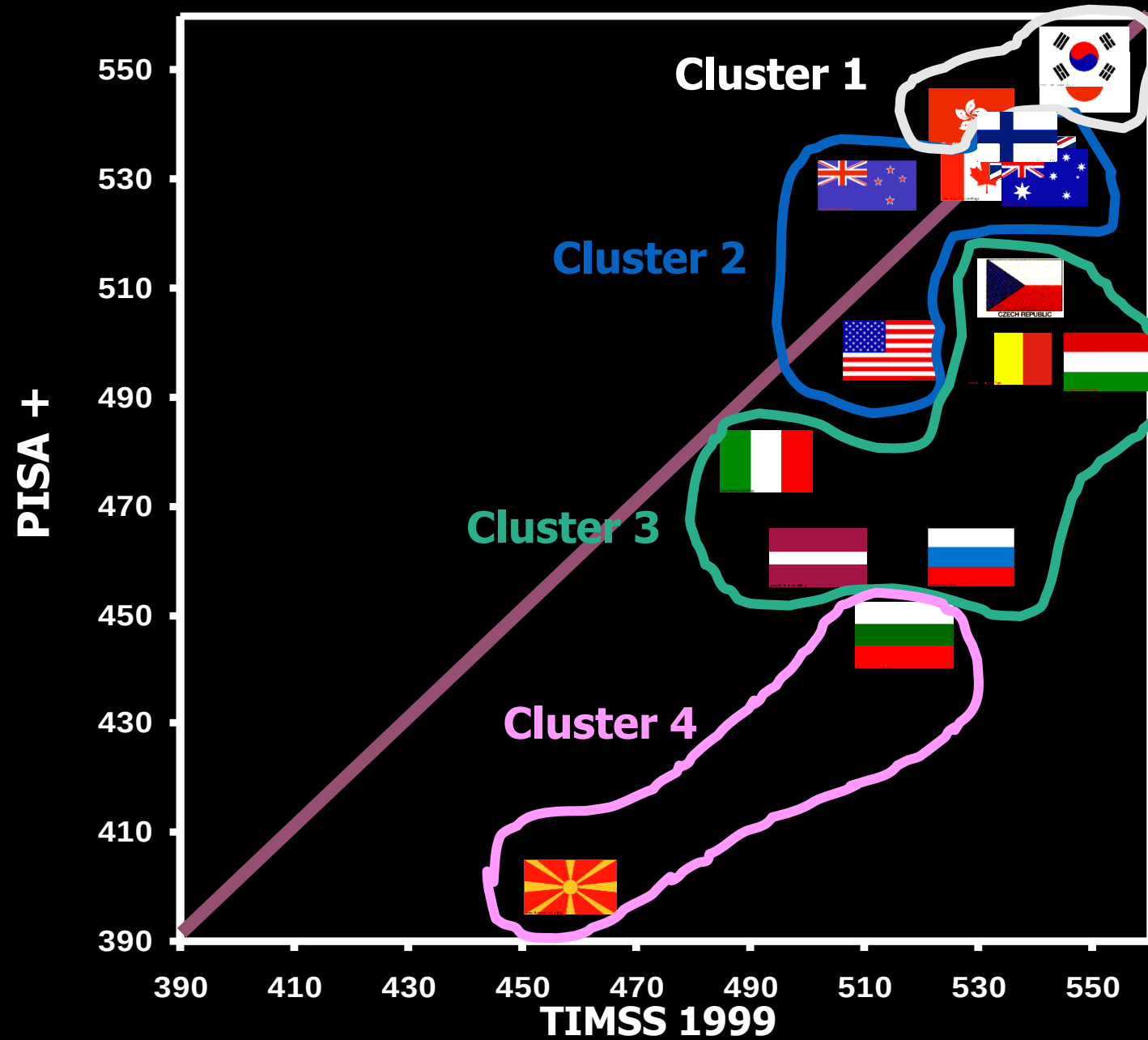


Iterative K-Mean Cluster Analysis of Science Classroom Activities Based on Teacher Questionnaire

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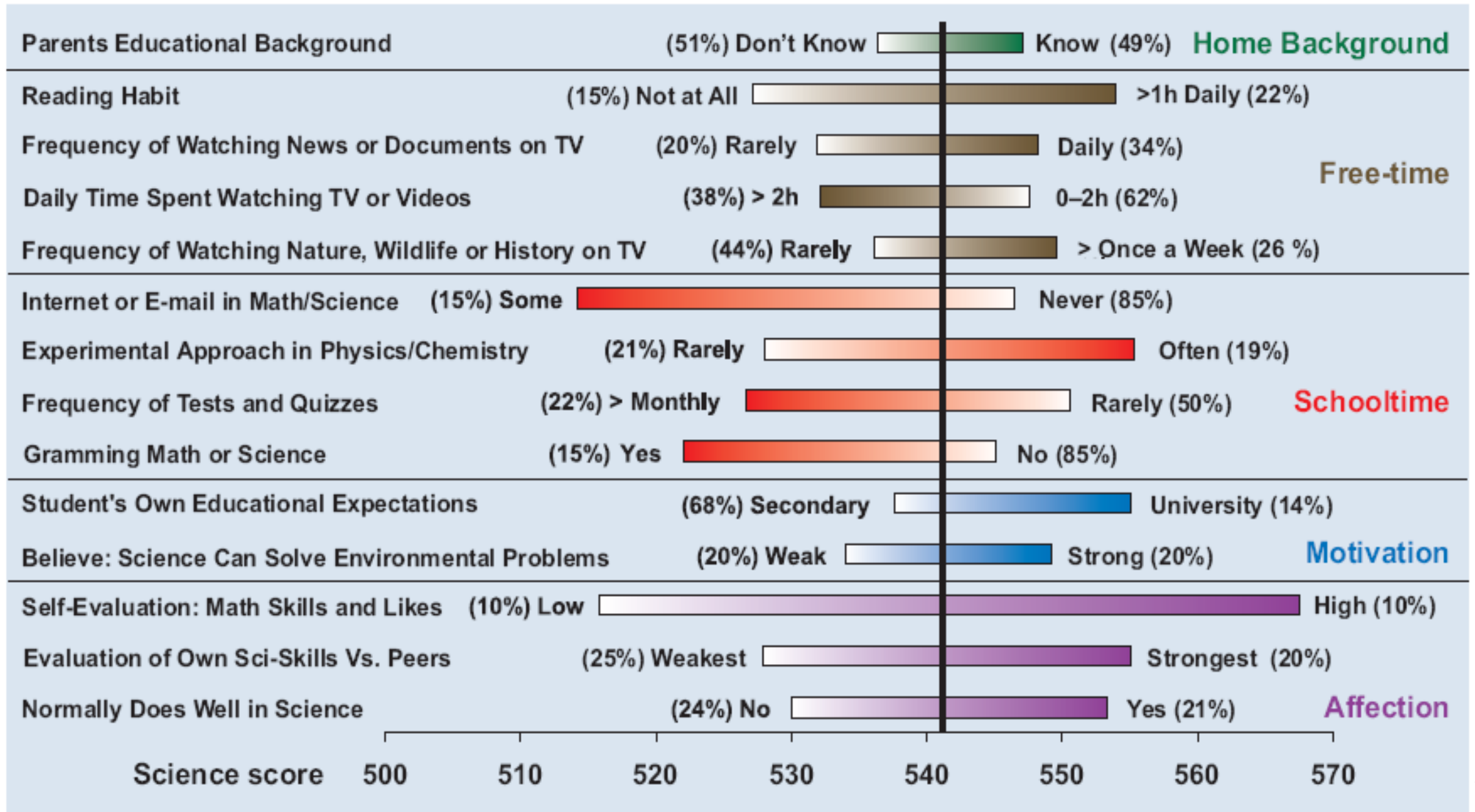
Clusterization of the countries



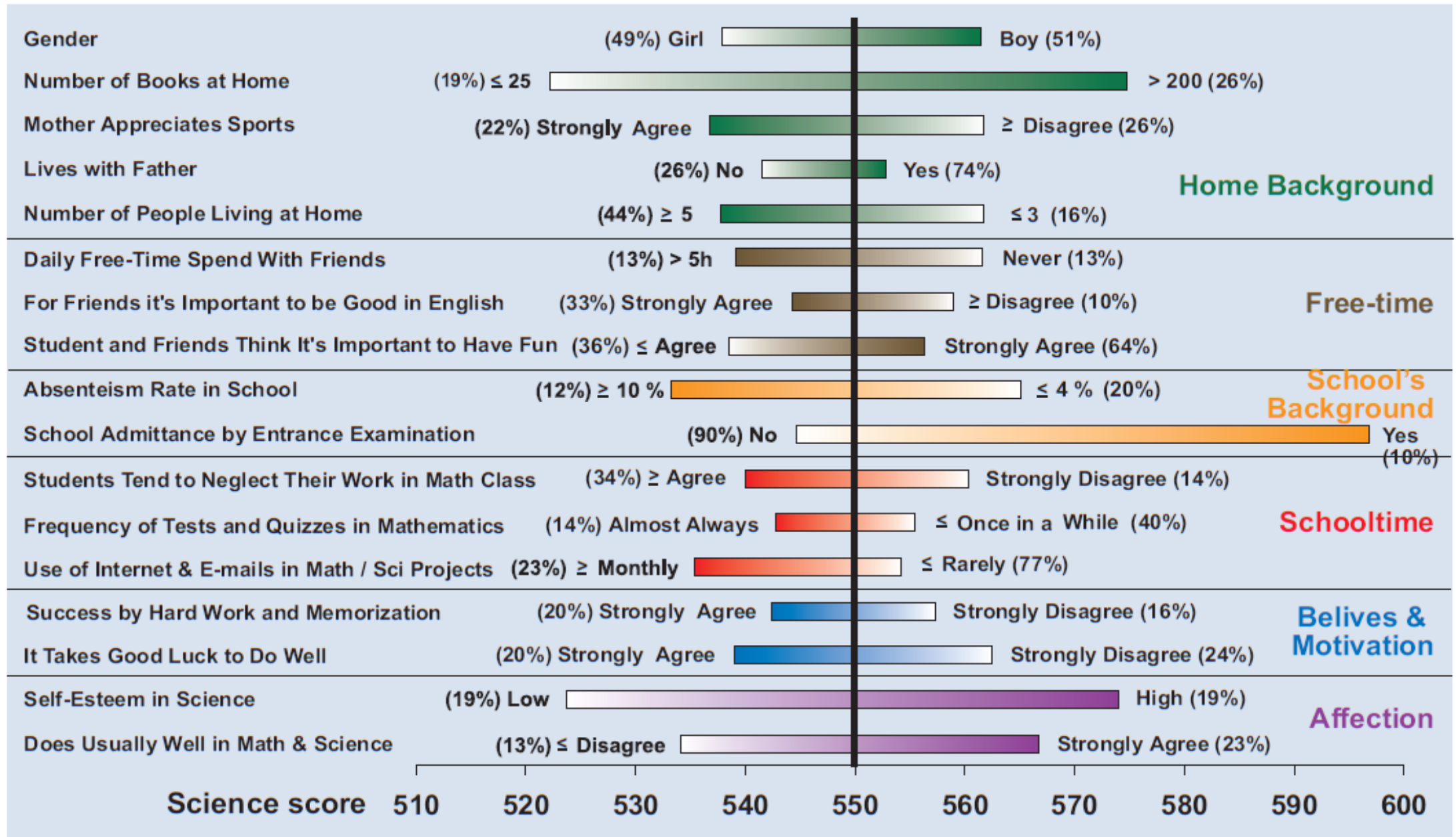
Graphical presentation of multilevel modelling results

<https://jyx.jyu.fi/bitstream/handle/123456789/37745/T022.pdf?sequence=1&isAllowed=y>

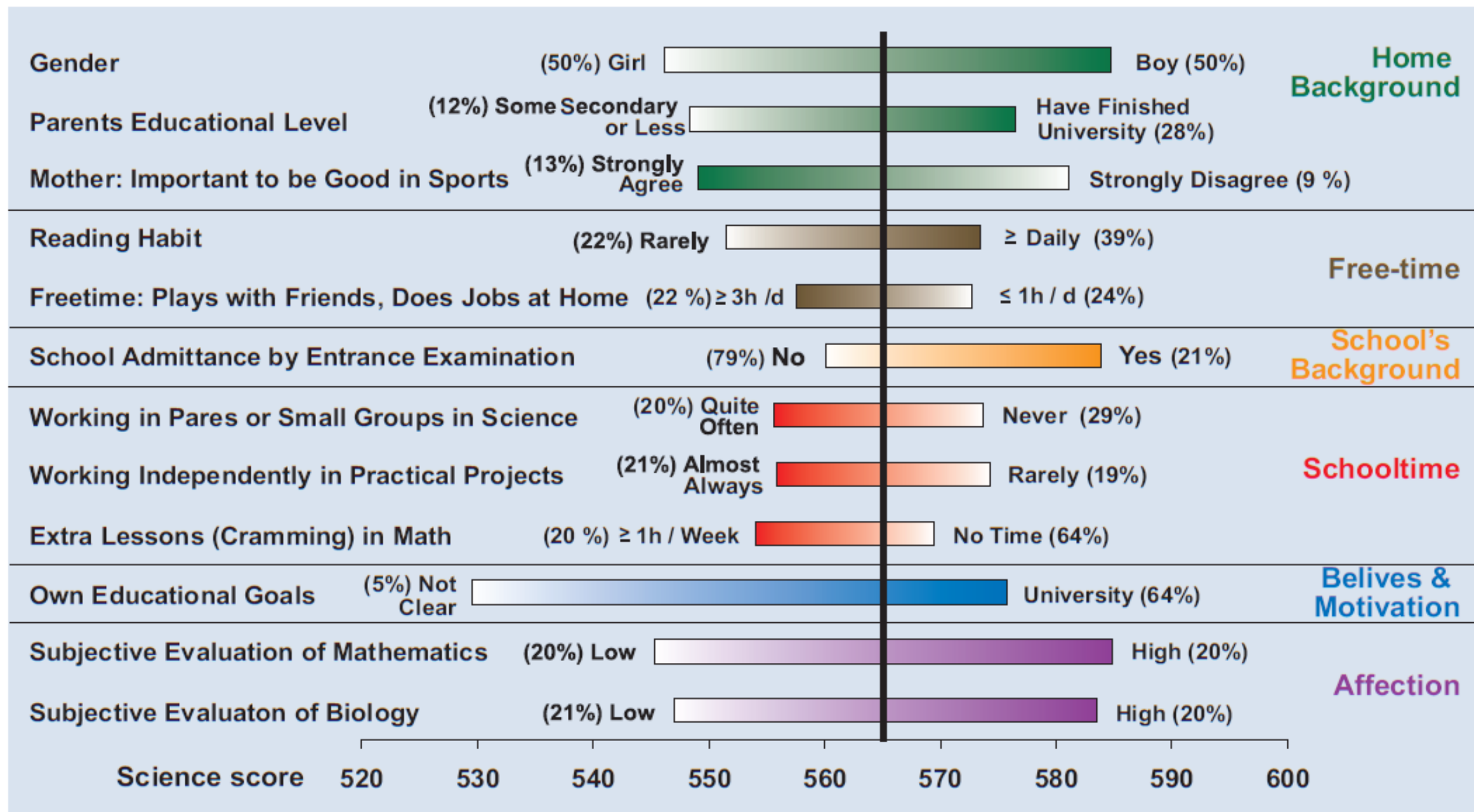
Finland



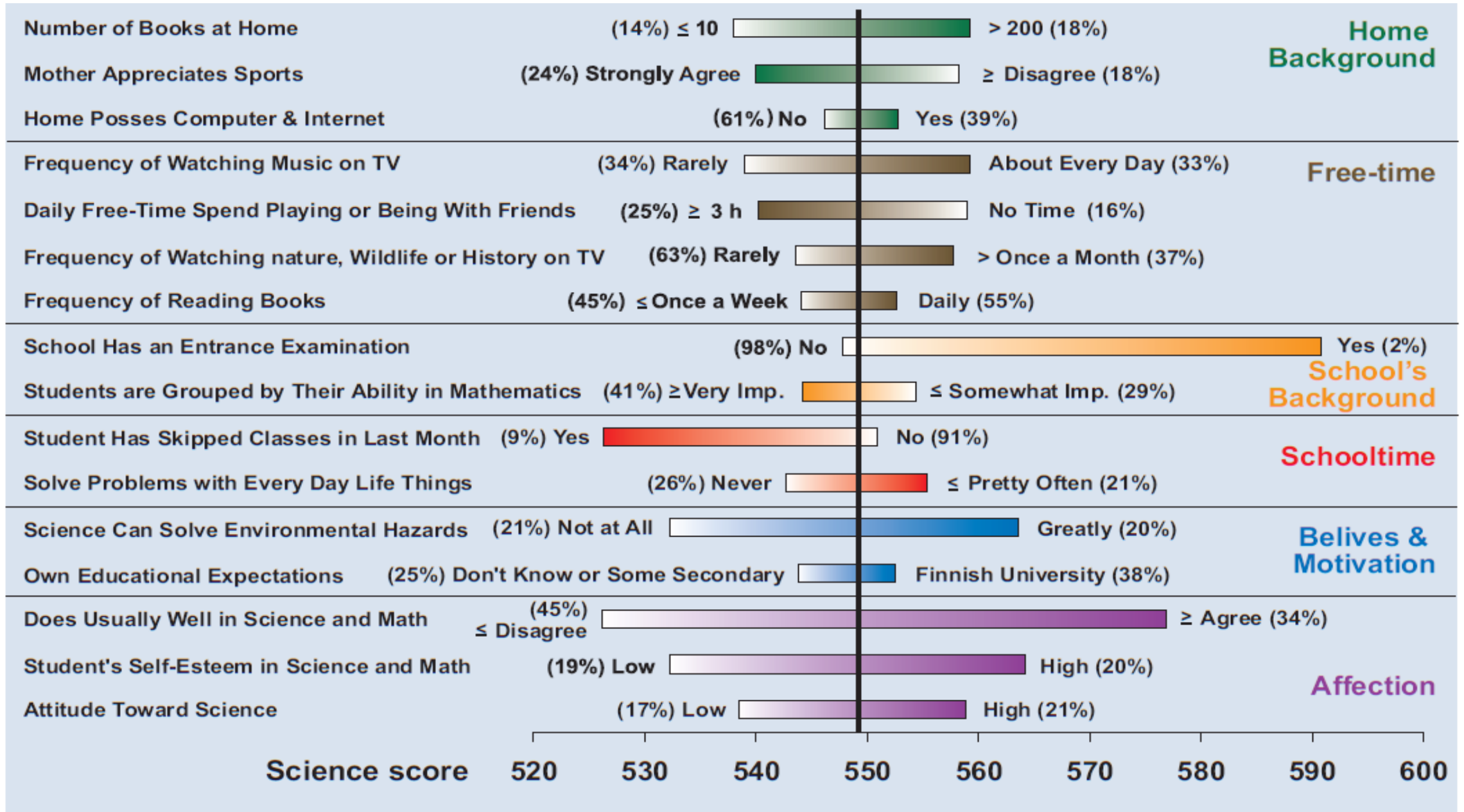
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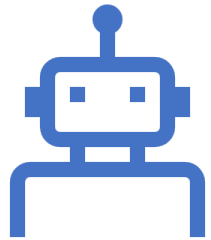


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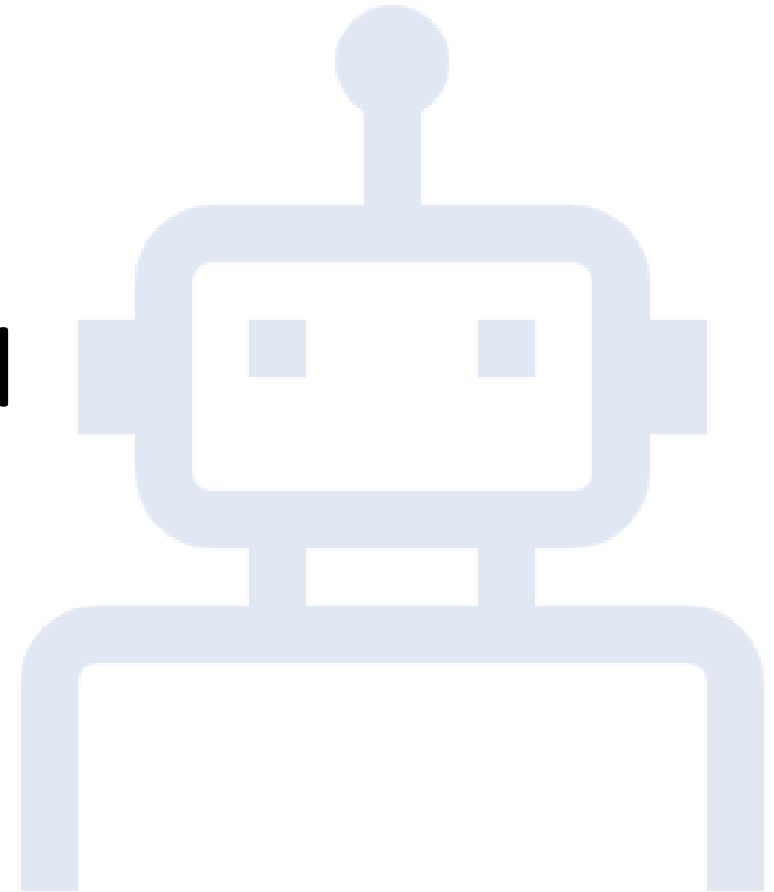


Japan





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LINKS to Finnish thesis of PISA, TIMSS and PIRLS

PISA:

https://www.finna.fi/Search/Results?sort=main_date_str+desc&view=condensed&filter%5B%5D=%7Eformat%3A%220%2FThesis%2F%22&join=AND&bool0%5B%5D=AND&lookfor0%5B%5D=pisa&type0%5B%5D=Subject&limit=100

TIMSS:

<https://www.finna.fi/Search/Results?limit=100&view=condensed&filter%5B%5D=%7Eformat%3A%220%2FThesis%2F%22&join=AND&bool0%5B%5D=AND&lookfor0%5B%5D=timss&type0%5B%5D=AllFields>

PIRLS:

<https://www.finna.fi/Search/Results?sort=relevance&bool0%5B%5D=AND&lookfor0%5B%5D=pirls&type0%5B%5D=AllFields&join=AND&filter%5B%5D=%7Eformat%3A%220%2FThesis%2F%22&limit=100>

Kiitos! Дякую!

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