

# **Institutional and socioeconomic factors influencing the reading engagement**

Baye, Monseur, & Lafontaine, Kiel – 14 sept. 2009

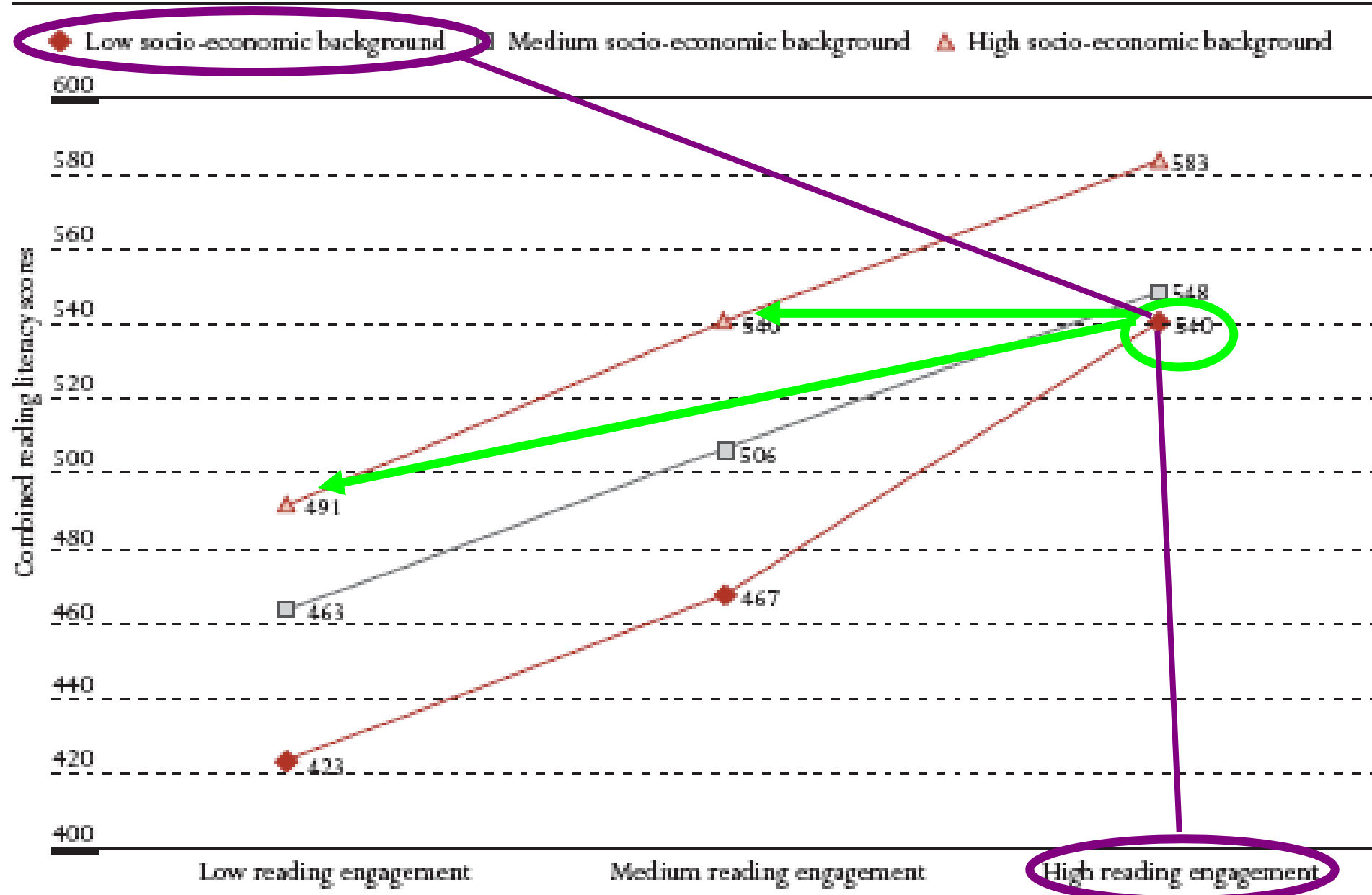
## **Institutional and socioeconomic factors influencing the reading engagement**

- Engagement: positive practices and attitudes toward reading
- Equity: the impact of socioeconomic background on achievement is unfair

## **Institutional and socioeconomic factors influencing the reading engagement**

- PISA 2000 : Engagement in reading can compensate for the social background (Kirsh et al., 2002)

## Reading literacy performance and socio-economic background by level of reading engagement



Source: Kirsh et al., 2002, p. 120.

## Institutional and socioeconomic factors influencing the reading engagement

- Unfortunately, this is not true in every education system (Lafontaine et al., 2003).
- In many tracked systems, there is no difference in reading achievement between the low SES students highly engaged and high SES students poorly engaged

## **Institutional and socioeconomic factors influencing the reading engagement**

- Hypothesis 1 : in some countries, the general level of engagement is too low
- This general low level of engagement handicaps particularly the disadvantaged pupils

## **Institutional and socioeconomic factors influencing the reading engagement**

- Hypothesis 2 : the relation between the reading engagement and the socioeconomic level is “hidden” by institutional factors
- In tracked education systems, only students in high performing schools benefit of the effects of their engagement

## Institutional and socioeconomic factors influencing the reading engagement

- The Lafontaine & Monseur engagement index is not in the PISA 2000 database.
- The Lafontaine & Monseur index was re-created, discussed and improved
- Objective for the new index: high reliability, high correlation with reading achievement, high theoretical relevance

# Institutional and socioeconomic factors influencing the reading engagement

## ■ Methodology

- PISA 2000 database
- 28 OECD countries (NLD included, BEL= 1 country)
- 4 questions, 17 items
  - ST34 Time spend reading for enjoyment
  - ST36 Time spend reading different material (Magazines, comic books, fictions, non fiction books, e-mail and Web pages, newspapers)
  - ST35 Attitudes toward reading (9 items: I read only if I have to, Reading is one of my favourite hobbies ... I cannot sit still and read for more than a few minutes )
  - ST38 Frequency of borrowing books for pleasure in a library (new)

# Institutional and socioeconomic factors influencing the reading engagement

- Methodology
- Principal component analysis
  - 1<sup>st</sup> factor (37% variance): validates empirically the « engagement » concept
  - 2<sup>nd</sup> factor (10% variance): Magazines, Comic books, Emails and Web pages, Newspapers > are they to be excluded?

# Institutional and socioeconomic factors influencing the reading engagement

## ■ Methodology

- Newspapers: important for adults to keep a link with reading
- Magazines: cf. Newspapers
- Comics: too variable according to national contexts
- Electronic supports: very important for the future... but too poor factor loading

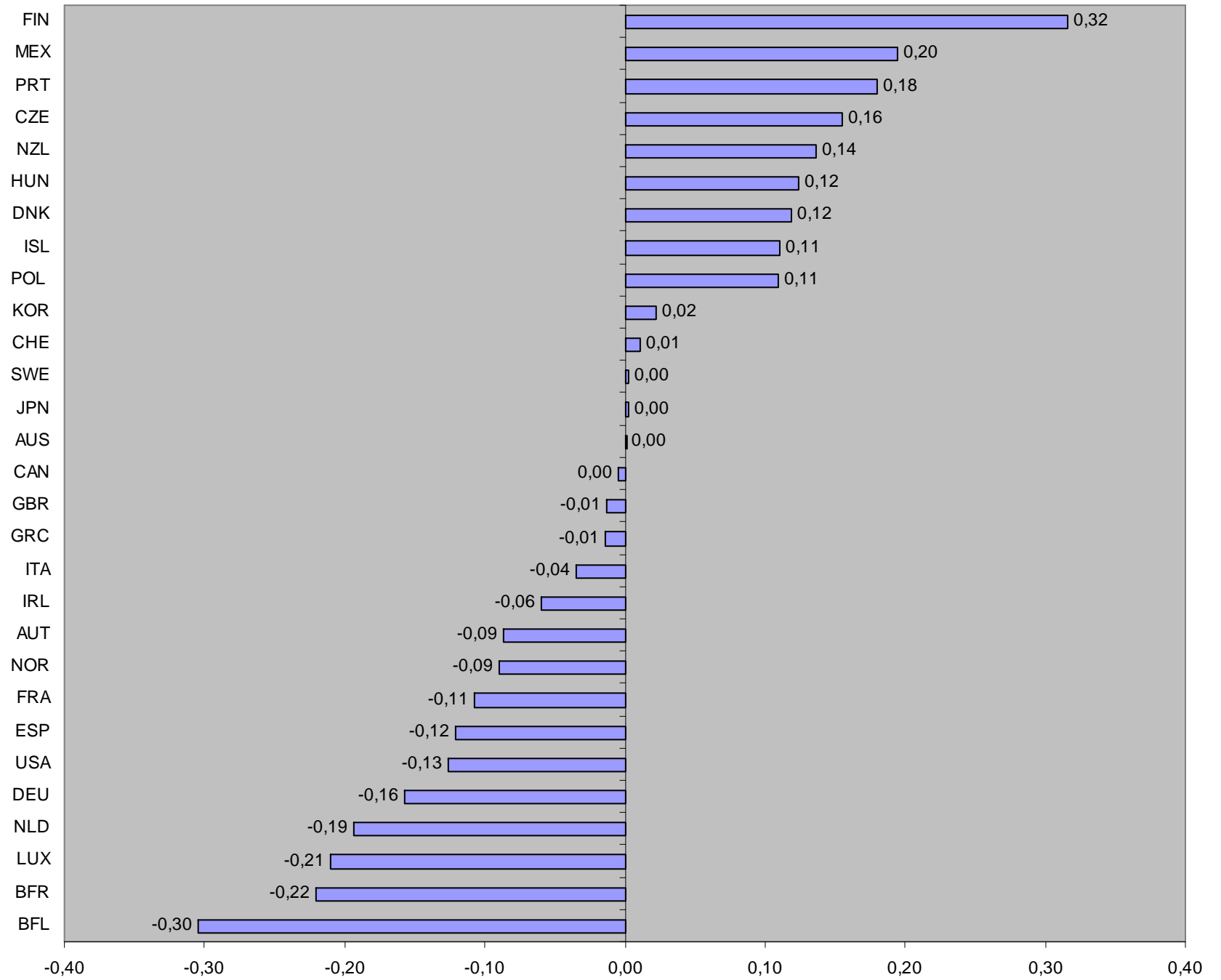
# Institutional and socioeconomic factors influencing the reading engagement

## ■ Methodology

- 15 items index (WLE, Warm, 1989 cf other PISA indexes and PV's)
- Difference with previous: library (ST38) included and Comic books (ST36Q02) excluded
- Reliability improved :.86 compared with .83
- Correlation (corrected for attenuation) with achievement higher (+0,02 by country)

# Institutional and socioeconomic factors influencing the reading engagement

- Results
- Mean engagement by country



## Institutional and socioeconomic factors influencing the reading engagement

- Finland has a particularly high level of reading engagement compared to the other countries
- European countries (Benelux, France, Germany, Spain) and the United States have particularly low level of reading engagement

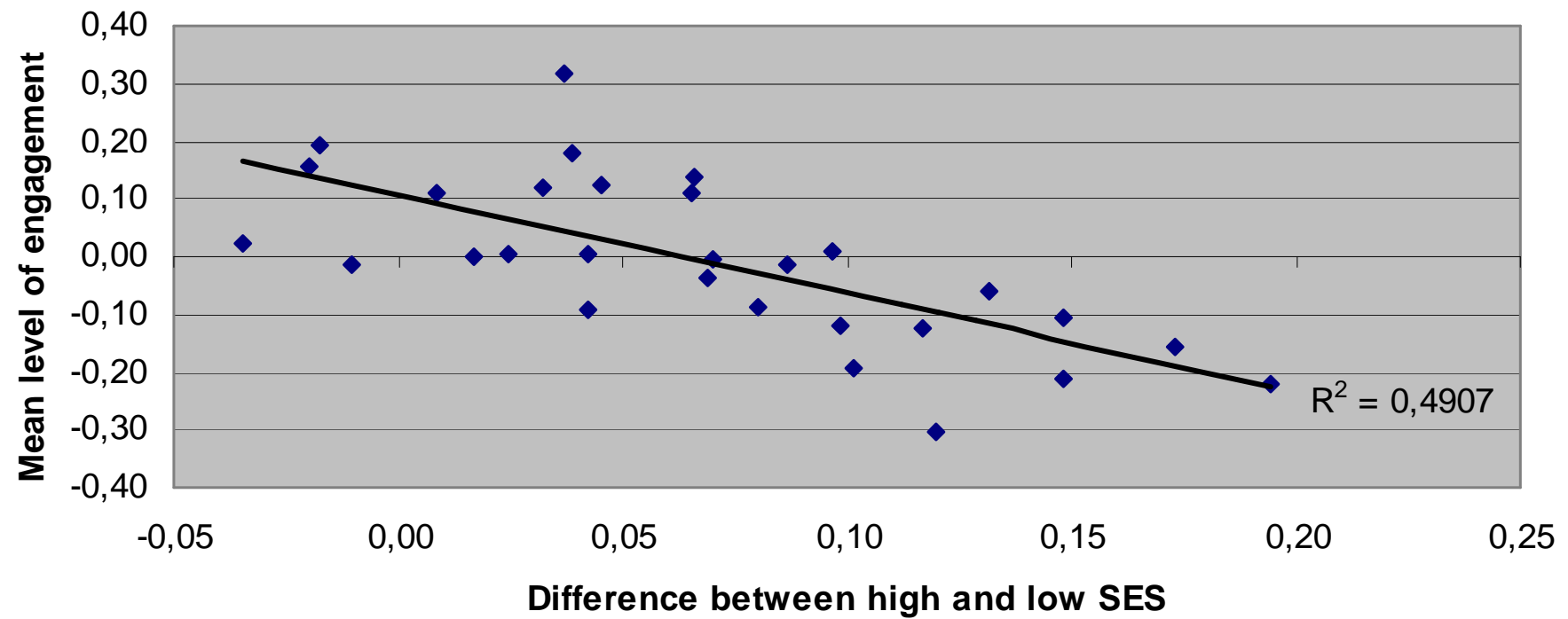
# Hypothesis 1

- In countries where the general level of engagement is low, the socially disadvantaged students are particularly handicapped
- Method : correlation between
  - Mean of the engagement index, by cnt (Y axis)
  - Difference between 1st quarter hisei (by country) and 4th quarter hisei in the correlation reading/engagement (X axis)

**Difference between 1st quarter hisei (by country) and 4th quarter hisei in the correlation reading/engagement (X axis)**

Country	Corr. read/engage for low SES (P25)	Corr. read/engage for high SES (P75)	Difference High-Low SES
AUS	.40	.41	.02
JPN	.30	.33	.02
DNK	.42	.45	.03
FIN	.43	.47	.04
USA	.25	.37	.12
FRA	.22	.37	.15
DEU	.26	.43	.17
BFR	.20	.39	.19

# Hypothesis 1



# Hypothesis 1

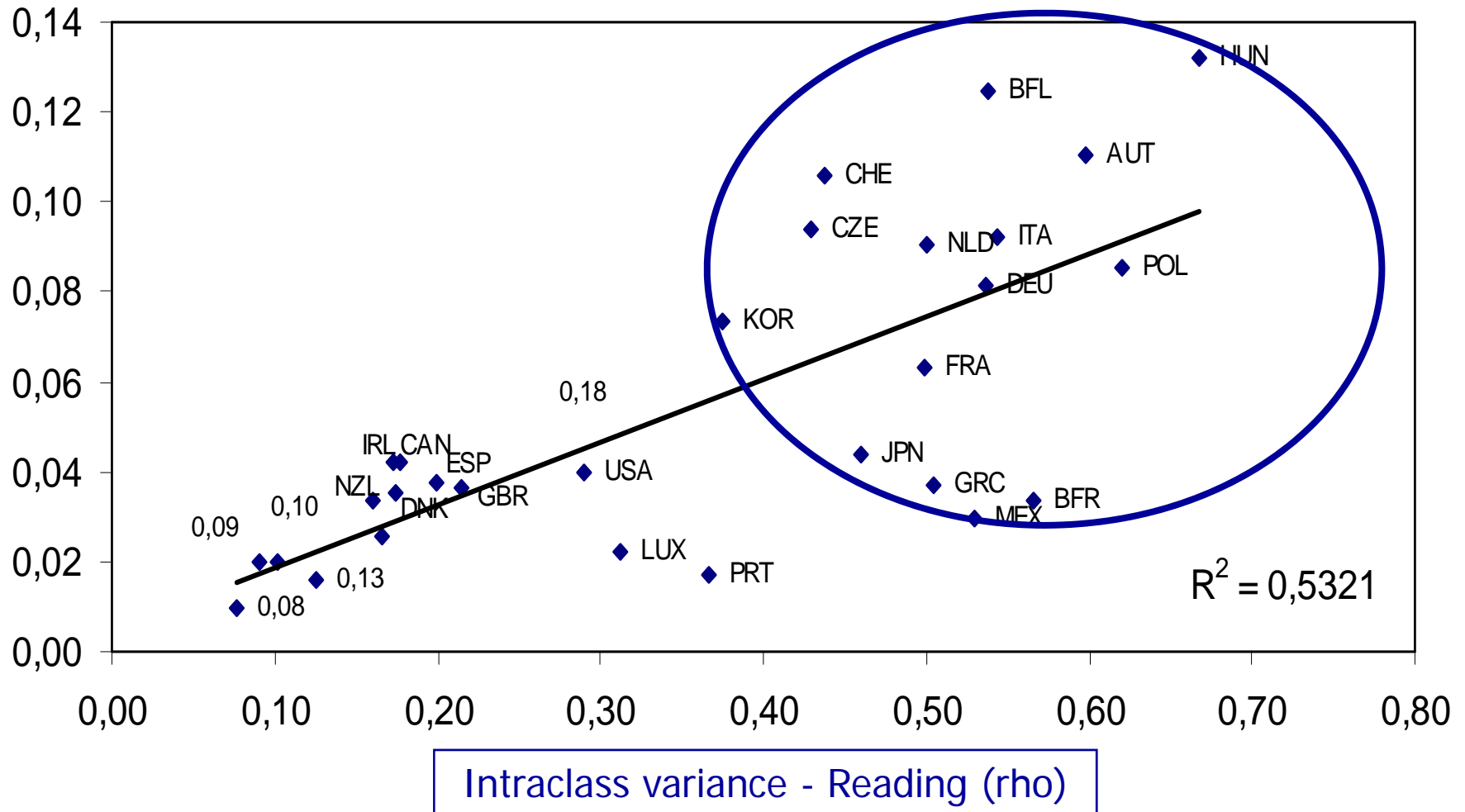
- In countries where the general level of engagement is low, the low SES students are particularly disadvantaged compared to the most socially advantaged 15-year-old students
- To raise up the general level of engagement is a way to improve equity

## **Institutional and socioeconomic factors influencing the reading engagement**

- Hypothesis 2 : the relation between the reading engagement and the socioeconomic level is “hidden” by institutional factors
- In tracked education systems, only students in high performing schools benefit of the effects of their engagement

# Identification of tracked systems

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# Institutional and socioeconomic factors influencing the reading engagement

- What are the respective effects of
  - engagement
  - SES
  - kind of school (high / low performing)

## Institutional and socioeconomic factors influencing the reading engagement

- A multilevel regression analysis was performed to take into account
  - the individual and school mean level of engagement,
  - the individual and school mean social level and
  - the type of school, i.e. high performing (above the national mean) versus low performing (under the national mean)

# Multilevel analysis

$$y_{ij} = \beta_{0j} + \beta_{1j(\text{SES})} + \beta_{2j(\text{engage})} + \varepsilon_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01(\text{meanSES})} + \gamma_{02(\text{meanengage})} + \gamma_{03(\text{schooltype})} + U_{0j}$$

$$\beta_{1j(\text{SES})} = \gamma_{10} + \gamma_{11\text{schooltype}} + U_{1j}$$

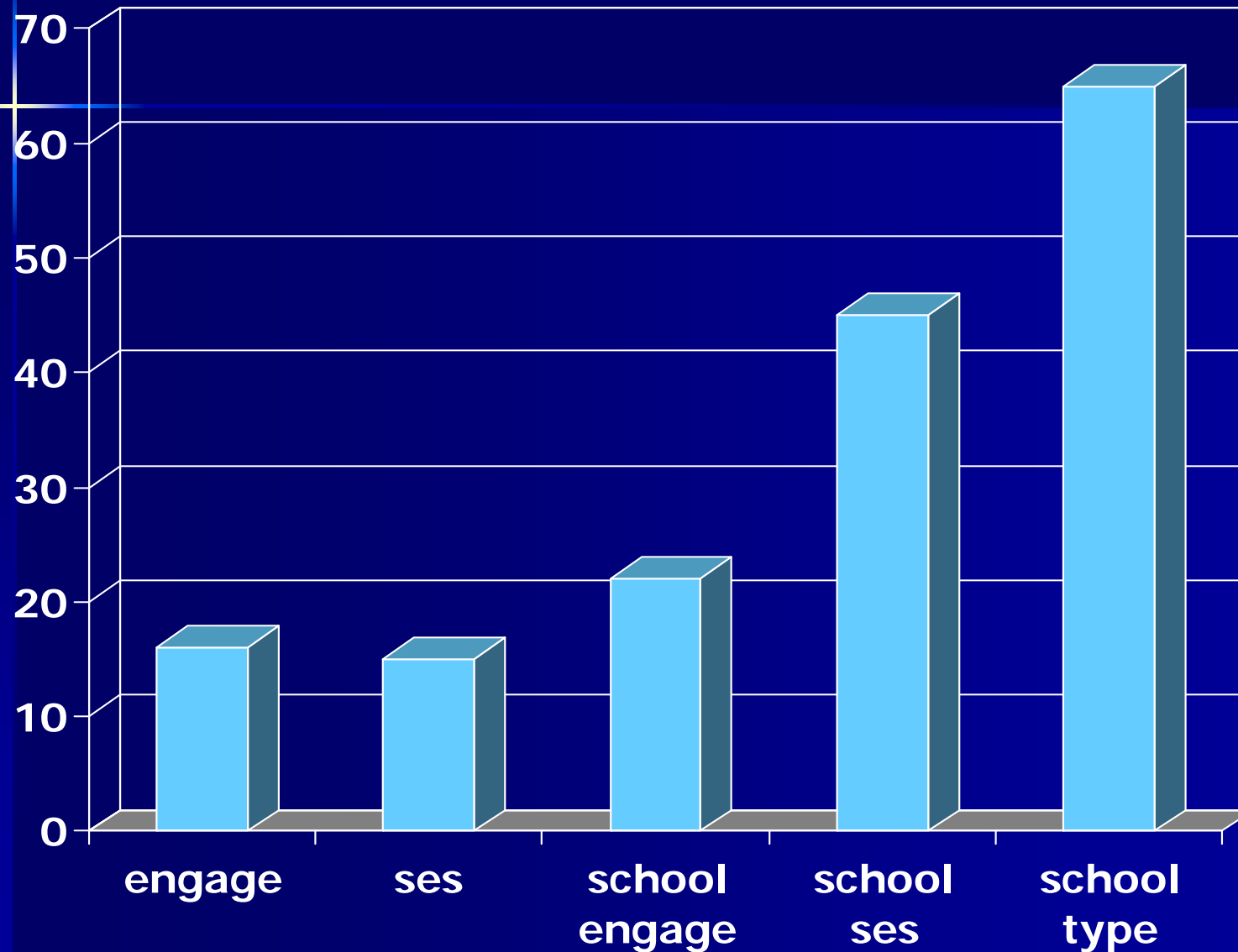
$$\beta_{2j(\text{engage})} = \gamma_{20} + \gamma_{21\text{schooltype}} + U_{2j}$$

# Example: Germany

Effect	Estimate	StdErr	DF	tValue	Probt
Intercept	470	4,20	211	111,87	0,000
engage	16	1,54	213	10,50	0,000
ses	15	1,96	213	7,43	0,000
sch_ses	45	7,18	4240	6,24	0,000
sch_engage	22	6,83	4240	3,17	0,002
schooltype	65	6,49	4240	9,98	0,000
engage*schooltype	6	2,20	4240	2,68	0,007
ses*schooltype	-9	2,67	4240	-3,22	0,001

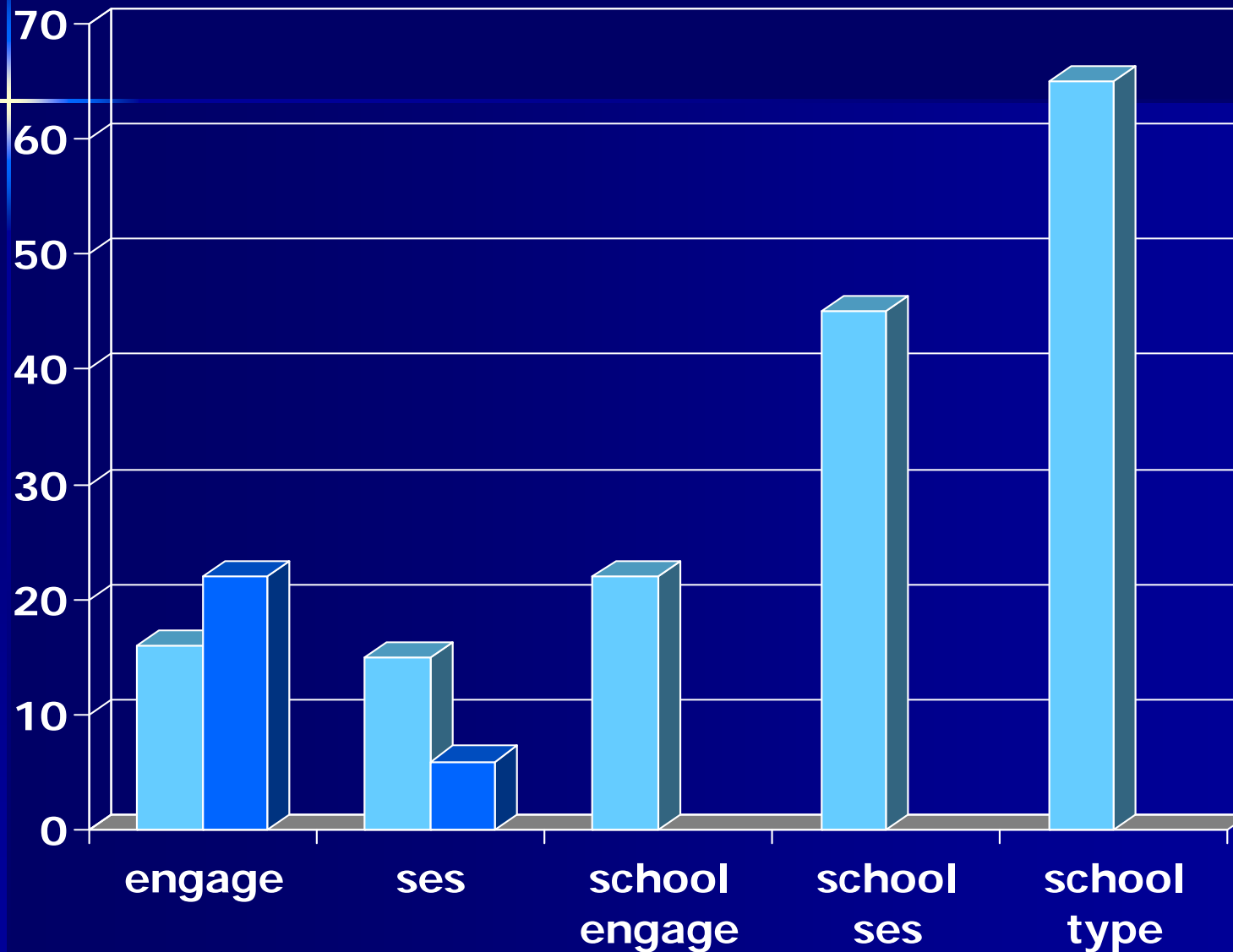
# Multilevel analysis, Germany

## Without interaction



# Multilevel analysis, Germany

## With interaction with the school type



# Institutional and socioeconomic factors influencing the reading engagement

- Positive interaction schooltype/engagement & negative interaction schooltype/hisei in (AUT)\*, BFL\*\*, BFR\*\*, CHE\*\*, CZE\*\*, **DEU, FRA, GBR\*\***, **ITA**, (LUX)\*, NLD\*\*, NZL\*\*, (USA)\*
- \*Not significant
- \*\*Only one of both interactions is significant
- Bold: both interactions are significant

## Institutional and socioeconomic factors influencing the reading engagement

- In some countries where schools strongly differ from other schools, the effect of engagement on achievement is important in high achieving schools, while in low achieving schools the SES has more effect than engagement
- In those countries, working to develop the reading practices and attitudes in low performing schools should be one priority // to the reduction of school segregation