

# **Self-control as a predictor of educational performance at group- and country level**

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# Formulating a problem:

- Self-control is a strong predictor of achievement in different domains
- There is literature on culturally determined high achievement in education and on labor market
- It doesn't utilize the concept of self-control

*The research integrates two research agendas and checks predictive power of self-control on group and societal levels over educational performance*

- Construction of the Self-control index
- Calculation of association between self-control and educational achievement for groups and countries.
- Comparison of self-control and other cultural predictors of achievement
- Suggestion of a mechanism that describes culturally determined good learner

# Self-control

... a capacity to alter or override dominant response tendencies and to regulate behavior, thoughts and emotions ... (de Ridder et al. 2011)

Self-control measured in childhood affects progress at school, risky behavior in adolescence, as well as physical health, personal financial management and criminal behavior in adulthood (Moffitt et al. 2011)

Self-control is at least as important as IQ in predicting educational achievement (Duckworth and Seligman 2005)

# Self-control index

A032 Important child qualities – hard work

A034 Important child qualities – feeling of responsibility

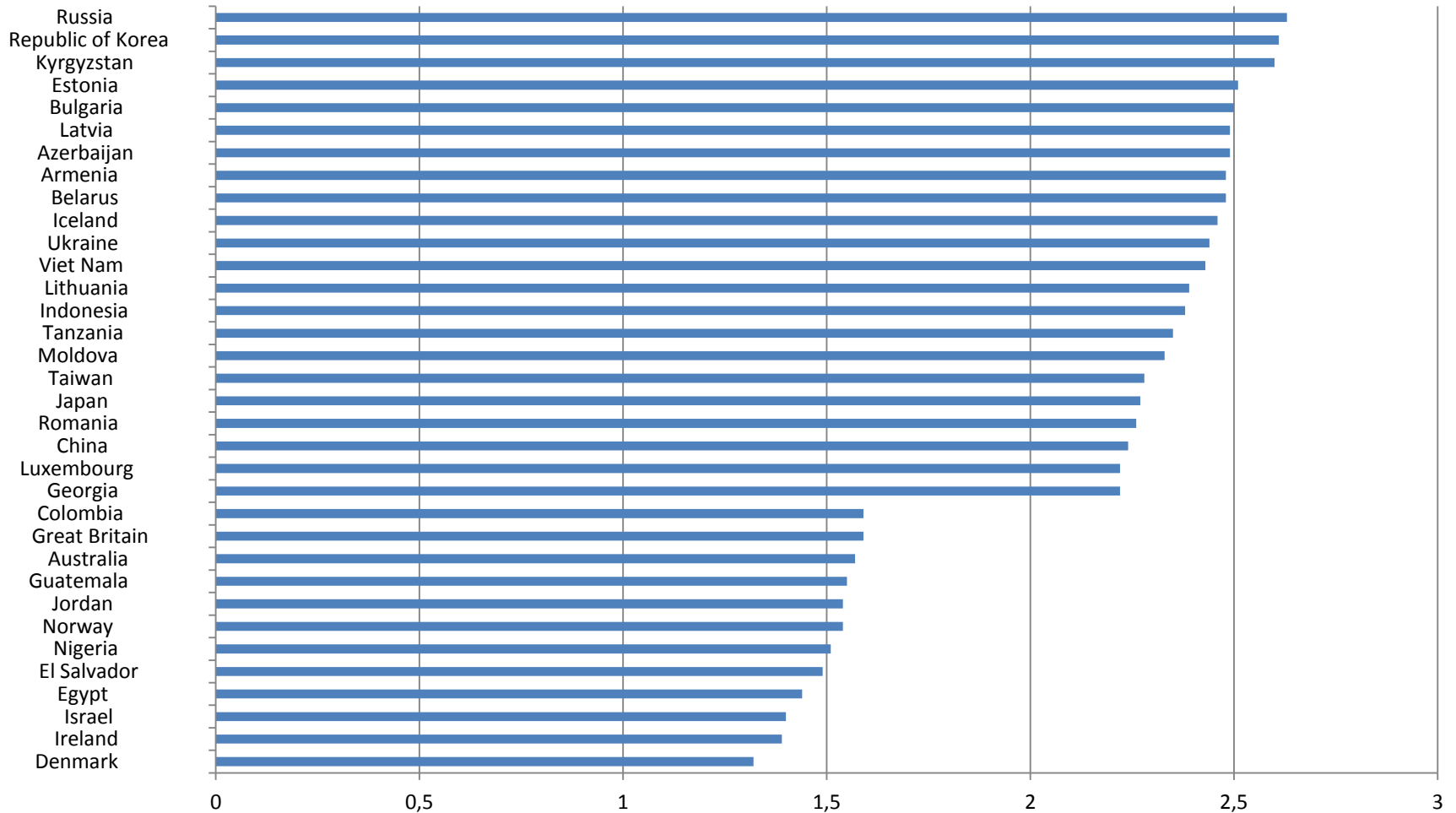
A037 Important child qualities – thrift saving money and things

A038 Important child qualities – determination perseverance.

FA: load on 2 factors, however due to unobvious field procedure and conceptual coherence it was decided to continue working with it.

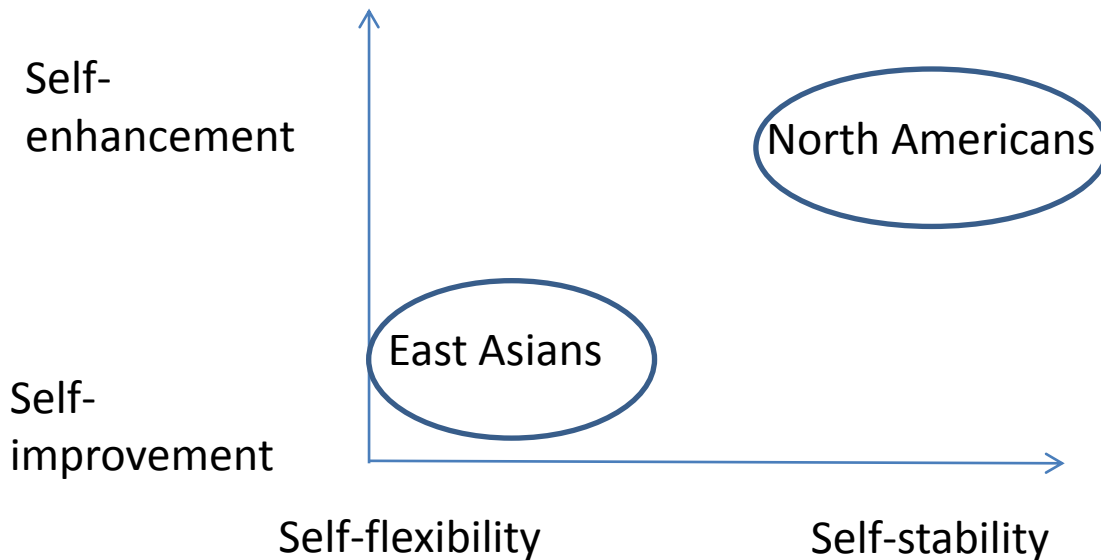
SC is a country mean of items for waves 2-5

# Self-control scores distribution – highest and lowest scores





# Monumentalism (Minkov)



*This factor defines a dimension that can be called "monumentalism." Speaking metaphorically, in the high-scoring societies, the human self is like a monolithic monument: proud and stable. (Minkov 2008: 183)*

G006 Proud to be a national of a country

D054 One of the main goals is to make parents proud

A006 Religion is important

**MI = Factor scores \* 100**

The index ranges from 222 (Puerto-Rico) to -206 (China)



# Study 1: Does Self-control predict educational performance on country level?

- Data: PISA'09 and World Value Survey (the largest research on values)
- Sample: 54 countries (data on PISA and WVS)
- Method: OLS linear regression
- Dependent variable: PISA math scores
- Independent variables:
  - log GDP per capita (World Bank),
  - Monumentalism index
  - Self-control index

# OLS: PISA\_math

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
	-			-	-	-
Constant	183.95** *	469.26** *	449.22***	221.575** *	320.378** *	330.961** *
ln GDP_PPP_MF	65.406** *			69.094***	70.255***	73.702***
Monumentalism		-.210*		-.189***		-.103*
Self-control (SC)			11.063		44.233***	32.462 (p=.062)
Adj. R <sup>2</sup>	.702	.084	-.014	.817	.77	.836

Dependent variable: PISA\_MATH

# Study 2: Does difference in self-control predict difference in educational performance between natives and migrants?

Data: PISA'09 and World Value Survey (the largest research on values)

Sample: 14 receiving countries, 93 diasporas

Dependent variable: PISA math scores difference between natives and a diaspora

Independent variables (that are significant):

- Difference in family SECS between natives and diaspora,
- Gini coefficient
- Monumentalism index difference between sending and receiving societies
- Self-control index difference

# OLS: delta\_PISA\_math

	Model 0	Model 1	Model 2	Model 3
Constant	68.192*	102.607***	81.658***	115.560***
Delta_ESCS	69.013**	54.821***	62.656***	54.412***
Gini	-2.113*	-3.219***	-2.431***	-3.510***
Delta_Monument		-.142***		-.118***
Delta_Self-control			17.094*	15.632 (p=.110)
R <sup>2</sup>	.644	.708	.687	.717
Dependent variable: DELTA_MATH				

# Results:

- (1) self-control has impact on educational results on group- and country level,
- (2) self-control and monumentalism highlight different facets of culture as a predictor of high educational achievement.

# Mechanism under monumentalism + self-control value combination

2 model situations:

Self-stability + self-enhancement + self-control =  
good communicator and performer

Self-flexibility + self-improvement + self-control  
= good learner

# Low scores of West European countries

Values describe (1) stable cultural patterns, (2) modernization stage, (3) current situation

European countries: high level of existential security -> opportunity, but no desire to advance -> hedonistic values

However: SC – leisure time is important ( $r=350$ ,  $p=.001$ ), SC – having a good time is important ( $r=290$ ,  $p=.039$ ).

This effect is significant after controlling for GDP per capita in a partial correlation equation ( $r=.478$ ,  $p=.007$  for importance of leisure time and  $r=.316$ ,  $p=.083$  for importance of having a good time)

# High scores of Post-Soviet countries?

- The surveys that were included into equation described these countries from 1989 to 2004 during the period of relative turbulence.
- However institutions that allowed to advance gradually and peacefully were inherent from the soviet time.
- High level of insecurity, but also institutional ways of advancement make self-control values matter more.



Thank you