NATIONAL RESEARCH UNIVERSITY

CHILDREN WITH BEHAVIORAL PROBLEMS IN THE FIRST GRADE OF RUSSIAN SCHOOL: SIMILARITIES AND DIFFERENCES

Alena Kulikova
Ekaterina Orel
Institute of Education,
National Research University
Higher School of Economics,
Russia, Moscow

Attention Deficit Hyperactivity Disorder (ADHD)

- ADHD is characterized by inattentive, hyperactive and impulsive behaviors;
- a number of criteria must be met;
-

US	9% of children ages 4 – 17;
UK	1,3 – 3,9% of school-aged children
Germany	2,21% of children ages 0-18;
France and Italy	0,18 – 7% of school-aged children
Russia	No official data (1,4-3,7%)

- behavioral problems lead to low academic performance, both on clinical (Brooke et al., 2009; Shaw et al., 2012) and large-scale (Polderman et al., 2010; Washbrook et al., 2013; Sayal et al., 2015) studies;
- negative association between ADHD and drug use, addictive behavior, social functioning, self-esteem, type of occupation, unsafe driving and obesity in adolescence;
- also relate to personality.

Focus of presentation

- ✓ To discover what differences exist between primary school students **who meet a sufficient number of ADHD** criteria and those who **do not experience any behavioral problems**,

- ✓ in terms of:
  - academic achievements in reading and mathematics,
  - annual progress in these subjects
  - personal, social and emotional development,

- ✓ based on the Russian sample of first-graders

Methodology

Sample

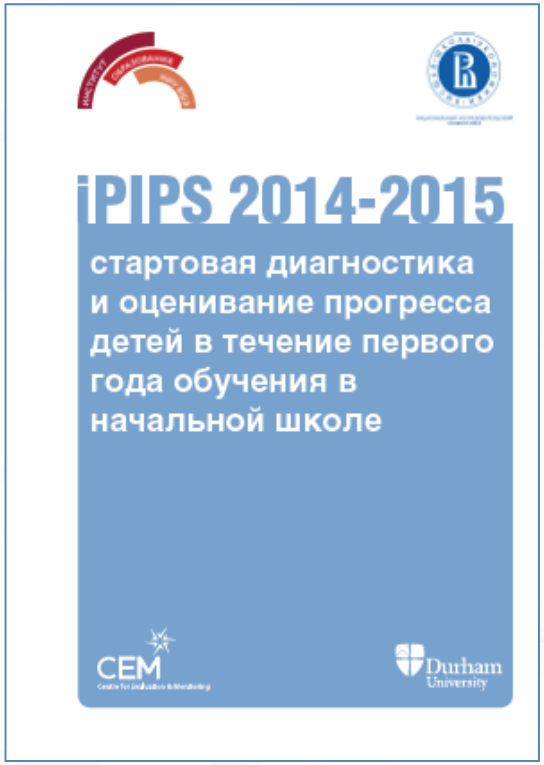
- ✓ Two big regions of Russian Federation
- ✓ 3021 children:
  - 1381 (50,4%) are boys, 1360 (49,6%) are girls and 280 pupils have missing gender data;
  - the average age is 7.34: 12% aged up to 7 years old, 47% from 7 to 7.5, 41% older than 7.5.

Instrument

- ✓ iPIPS (cognitive module, PSED and behavioral scale)
- ✓ Children were ranged based on General Behavioral Scale and then divided into two parts: ‘upper” (33% highest scores) and “other” groups.

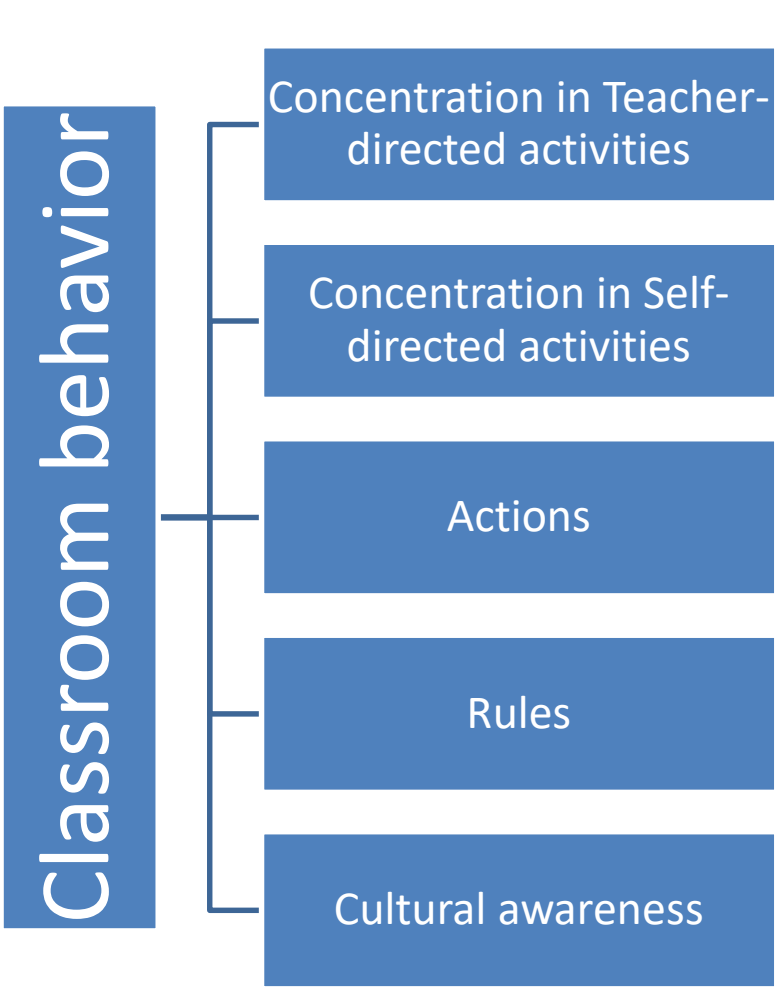
iPIPS: international Performance Indicators for Primary Schools

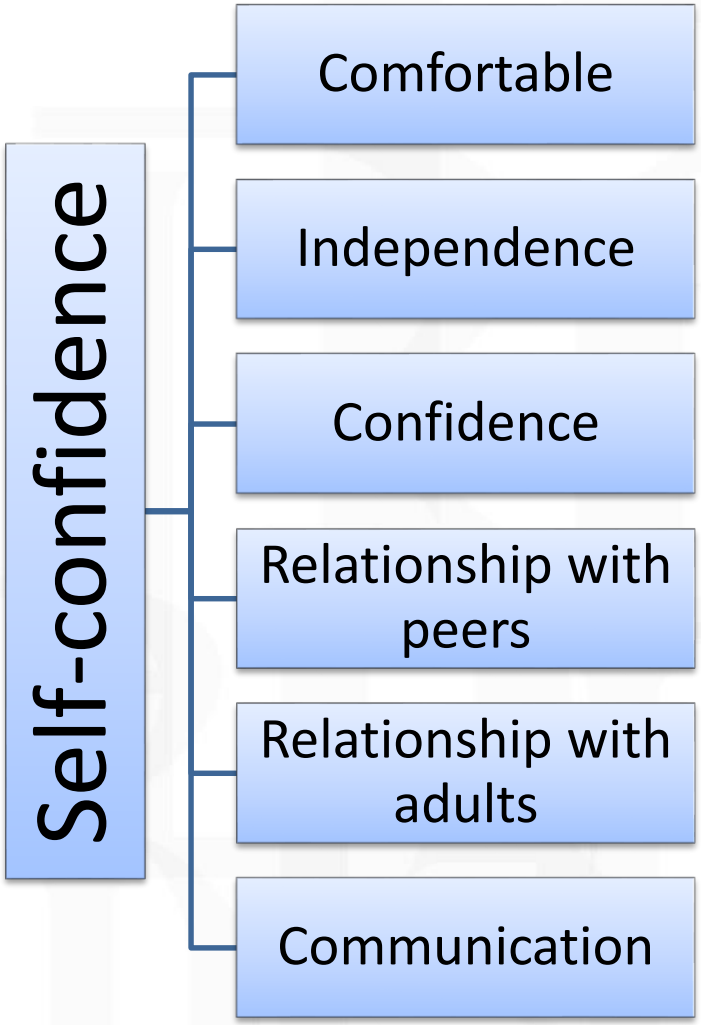
Writing
Vocabulary
Reading
Counting
Simple sums
Numbers
Math problems
Attitudes



- Computer adaptive, child friendly
- High reliability (0.98 test-retest; 0.92 Cronbach's alpha)
- Good predictive validity (0.6-0.7 correlations to performance at age 7 and 11)
- Adopted in Scotland, Australia and New Zealand. Translated into German, Dutch, Slovenian, Chinese and Russian
- Measures cognitive and psychological characteristics

PSED: Personal Social and Emotional Development



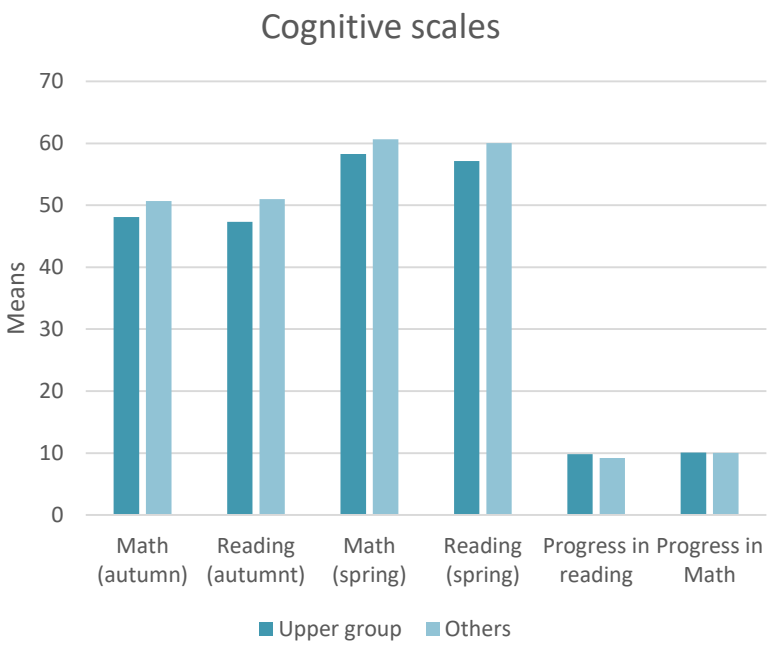


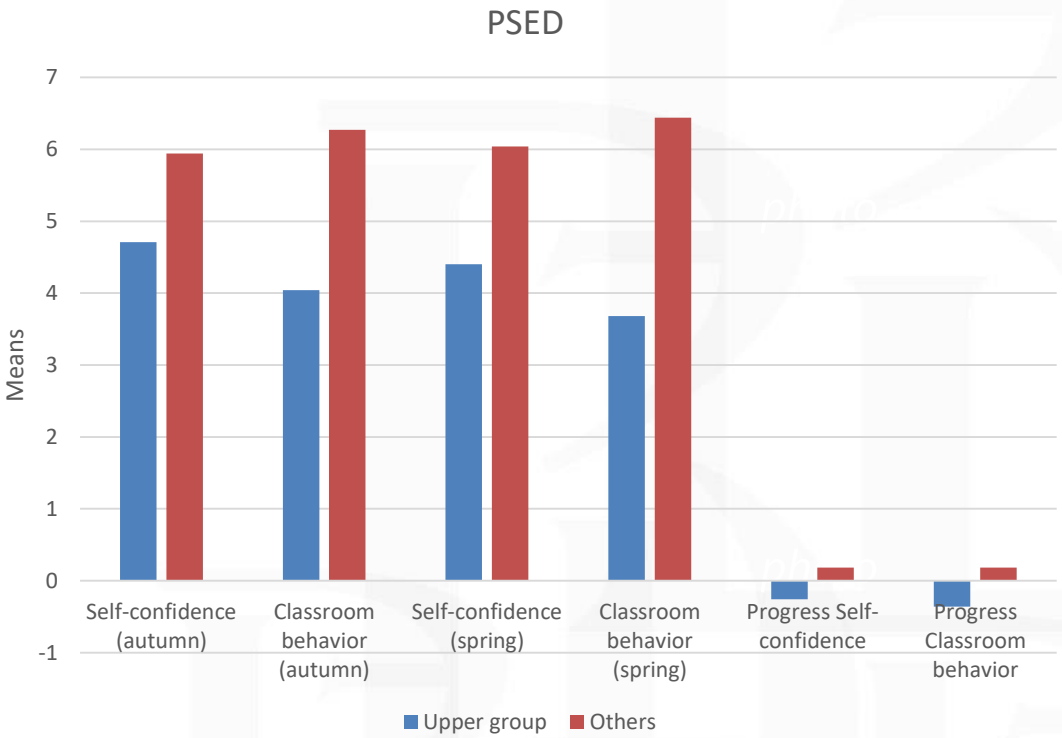
Behavioral scale

- Consists of 21 rating scales questions (11 for inattention and hyperactivity and 10 for impulsivity);
- The items are almost identical to the diagnostic criteria for ADHD in DSM-IV;
- Completed by class teachers based on their observations of pupils during the year;
- All scales have satisfactory reliability indexes (Inattention and Hyperactivity – Cronbach's alpha 0.93; Impulsivity – 0.94; **General Behavioral Scale**, which is a simple composition of all items in the questionnaire – 0.96).

- 3 experts in child psychology were asked to evaluate the behavioral scale
  - *Relying on the information about the iPIPS study, please evaluate the content and face validity of the behavioral scale.*
  - *How relevant is the behavioral scale for the ICD-10 system, which is used in Russia?*
  - *Can the behavioral scale be used by a teacher, considering the fact that he or she normally doesn't have a proper psychological education?*
  - *What is the best way for providing a feedback for the teachers on the behavioral scale?*

Descriptives





The 33% of the sample with the highest scores forms “upper group”

Correlations – Cognitive Scales

Cognitive Scales		Pearson Correlation		
		General behavioral scale	Inattention	Impulsivity
Beginning of the school (autumn)	Math	-.178**	-.299**	-.058**
	Reading	-.223**	-.327**	-.114**
Follow-up assessment (spring)	Math	-.155**	-.274**	-.043*
	Reading	-.216**	-.313**	-.111**
Progress in reading		,037	.064**	,015
Progress in math		,026	,035	,014

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations - PSED

		Pearson Correlation		
PSED Scales		General behavioral scale	Inattention	Impulsivity
Beginning of the school (autumn)	Self-confidence	-.345**	-.450**	-.218**
	Classroom behavior	-.616**	-.616**	-.528**
Follow-up assessment (spring)	Self-confidence	-.476**	-.596**	-.317**
	Classroom behavior	-.784**	-.800**	-.659**
Progress Self-confidence		-.156**	-.170**	-.122**
Progress Classroom behavior		-.214**	-.224**	-.173**

**. Correlation is significant at the 0.01 level (2-tailed).

Compare means – Cognitive scales

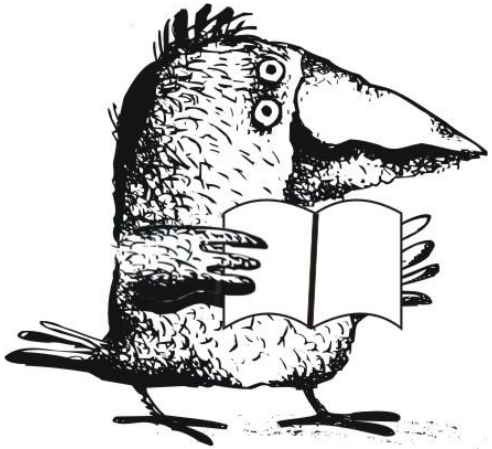
Cognitive Scales		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Beginning of the school (autumn)	Math	-6.075	2739	0.00	-2.60
	Reading	-8.172	2739	0.00	-3.63
Follow-up assessment (spring)	Math	-4.983	2429	0.00	-2.36
	Reading	-7.175	2429	0.00	-2.85
Progress in reading		1.719	2429	0.09	0.61
Progress in math		0.292	2429	0.77	0.09

PSED Scales		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Beginning of the school (autumn)	Self-confidence	-14.142	2120	.000	-1.22897
	Classroom behavior	-28.483	2127	.000	-2.23225
Follow-up assessment (spring)	Self-confidence	-20.743	2407	.000	-1.64146
	Classroom behavior	-42.253	2428	.000	-2.76302
Progress Self-confidence		-5.626	2071	.000	-.44479
Progress Classroom behavior		-7.696	2099	.000	-.54222

Conclusion and limitations

- Children with ADHD symptoms show lower level of cognitive development both in reading and mathematics.
- Children with ADHD symptoms also demonstrate lower level of personal and emotional development, but this correlation is partially explained by the similar areas covered by two questionnaires.
- It can be assumed that noncognitive development of children with behavioral problems goes slower than for other children.
- The progress the children make on cognitive development **are equal** for those who have behavioral problems and those who don't.

- The limitations of this research include:
  - the lack of information about ADHD in Russia;
  - more comprehensive research is needed to investigate the relationship between ADHD, family SES and broader social and school factors.



Thank you for attention!

Alena Kulikova

aponomareva@hse.ru