



**Evidence for
Excellence in
Education**

Evidence Paper

Analysis of the PIRLS 2011 Data: Save the Children

**National Foundation for Educational
Research (NFER)**



Analysis of the PIRLS 2011 Data: Save the Children

Jenny Lenkeit
Bethan Burge

Published in October 2014
By the National Foundation for Educational Research,
The Mere, Upton Park, Slough, Berkshire SL1 2DQ
www.nfer.ac.uk

© 2014 National Foundation for Educational Research
Registered Charity No. 313392

ISBN 978-1-910008-34-8

How to cite this publication:

Lenkeit, J. and Burge, B. (2014). *Analysis of the PIRLS 2011 data: Save the Children evidence report*. Slough: NFER.

Contents

1	The Progress in International Reading Literacy Study (PIRLS)	1
1.1	Introduction	1
1.2	Participants	1
1.3	PIRLS 2011 sampling strategy	2
1.4	PIRLS 2011 survey conduct	2
1.5	PIRLS 2011 in the UK	3
2	Key Findings	4
3	Data and analysis	6
3.1	Sample	6
3.2	Interpreting the data	6
3.3	Indices	7
4	Results	9
4.1	Achievement in PIRLS 2011	9
4.2	Educational inequality	13
4.3	Home environment and attitudes to learning	14
4.4	Gender gaps	37
5	References	39
	Appendix: Data tables	40

1 The Progress in International Reading Literacy Study (PIRLS)

1.1 Introduction

Reading is perhaps the most important skill that a child can develop, and it is important for parents to help their children develop the habit of reading at a young age. Fourth grade is an important transition point in children's development as readers, because at this stage most students should have learned to read, and are now reading to learn. Regardless of the subject matter taught, reading is crucial to success in school, and students need good reading comprehension to understand and learn the material being covered in their various classes.

Mullis et al., 2012, p. 25

The Progress in International Reading Literacy Study (PIRLS) measures trends in children's reading literacy achievement. PIRLS was conducted for the third time in 2011. It is conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA) and compares the reading attainment and attitudes to reading of over 200,000 9- and 10-year-old children around the world. It is the only international study to provide information on the reading habits of primary-aged children: the survey collects information not just on reading attainment, but also about children's reading attitudes and habits, and whether and what they read for pleasure. Background information is also collected from headteachers and teachers and this provides further comparative information about schools and the teaching of reading.

1.2 Participants

PIRLS 2011 involved 57 participating countries: 45 countries tested at 'fourth grade'; three countries tested at 'sixth grade'¹; one country tested at fourth and sixth grade, and there were nine benchmarking participants, one of which tested at fifth grade². Fourth grade includes children aged 9–10 (equivalent to Year 5 in England). The PIRLS 2011 participants are varied, ranging from highly developed countries or regions through to developing ones. Their education systems also vary, differing for example in the age at which children start school. More information about the

¹ Honduras, Kuwait and Botswana tested at sixth grade only. Morocco tested at fourth and sixth grade

² Countries participating in PIRLS follow guidelines and strict sampling targets to provide samples that are nationally representative. 'Benchmarking participants' are regional entities which follow the same guidelines and targets to provide samples that are representative at regional level. One participant (Malta) entered the main survey as a country testing in English, and as a benchmarking participant testing in Maltese. The Republic of South Africa entered as a benchmarking participant, testing grade 5 pupils in English or Afrikaans only.

educational system in each participating country and region can be found in the PIRLS encyclopaedia (Mullis *et al.*, 2012).

1.3 PIRLS 2011 sampling strategy

PIRLS samples are drawn based on internationally specified criteria, and are designed to be representative of the national population of pupils in the target age group (or regional population, for benchmarking participants). Each participating country is therefore expected to provide a sampling pool that covers all or almost all of the target national population. Where exclusions are considered necessary, these must be within set limits. Exclusions may be for a variety of reasons, including inability to participate due to geographical, linguistic or special educational needs reasons.

PIRLS guidance stipulates that no more than five per cent of the population in total should be excluded across all stages of the survey. See the Appendix C of the international report for more information (Mullis *et al.*, 2012).

In PIRLS, each participating country has a 'main sample' and two matched 'replacement samples' which are used if the main sample schools decline to participate. The main sample is designed to be nationally representative of pupils in the target age group and so the sampling criteria for each country are designed to address key characteristics of the nation's school system. Schools are sampled using systematic, random sampling with probability proportional to their measures of size. Each main sample school is then assigned a 'first replacement' school and a 'second replacement' school, both of which share the same key sampling characteristics as the main sample school. This ensures that, if the main sample school declines to participate, its first replacement school can be used instead and the sample will still be nationally representative.

Classes of pupils of the target age are then randomly sampled within the participating schools and 95 per cent of these classes are expected to take part. Within each sampled class, at least 85 per cent of pupils are expected to take part. Samples are inspected and, if they meet the sampling criteria, accepted by the IEA's sampling referee.

1.4 PIRLS 2011 survey conduct

In order to establish and maintain comparability between all participating countries, PIRLS 2011 was conducted according to a rigorous set of procedures. These specified:

- participation of a representative sample of pupils using a two-stage sampling design with probability-proportional-to-size sampling
- minimum response rates before the inclusion of replacement schools
- at least 95 per cent coverage of the target population

-
- comparability in instruments and questionnaires (all translations and adaptations independently verified)
 - consistent implementation of the survey procedures according to the internationally agreed standards, including random quality control visits to schools by national observers and international monitors
 - multiple-marking exercises to assess scoring reliability
 - rigorous data cleaning procedures, nationally and at the IEA Data Processing Centre.

1.5 PIRLS 2011 in the UK

The countries which comprise the United Kingdom are regarded separately by the IEA, and, of the four, England and Northern Ireland chose to participate in the 2011 survey. PIRLS 2011 was administered in both countries by NFER. Outcomes from previous cycles of PIRLS internationally and in the UK are available through the NFER website: www.nfer.ac.uk/pirls .

2 Key Findings

This evidence paper describes the analysis and results from an in-depth investigation of the reading performance of Year 5³ pupils in England and a selection of comparison countries. It focuses on overall performance levels, degrees of educational inequality, characteristics of the home environment and attitudes towards learning of the lowest achieving students as well as gender gaps in reading performance. The main findings of this investigation are:

- England's average reading score of 552 is significantly above the international average.
- England's score difference (274) between the lowest and highest performing pupils is larger than in countries with comparable overall performance. With limitations this difference may be translated into seven years of schooling that separate the lowest and highest performing pupils.
- Five per cent of pupils in England do not reach the *Low International Benchmark*, which is a similar percentage to countries such as Bulgaria, France and Lithuania. A further 13 per cent perform at the *Low International Benchmark*.
- At the same time England has among the highest percentage of pupils reaching the *Advanced International Benchmark* (18 per cent).
- In England, the average reading achievement score of pupils in the lowest performance quartile is 500. Average reading achievement scores of the lowest 25 per cent of performers varies across the participating countries. In some countries, for example in Germany, the average score for this group of pupils is comparable to that seen in England. However, in other countries the average score for this group of pupils is significantly lower (for example Norway) and in others it is significantly higher (for example Northern Ireland).
- The lowest 25 per cent of performers, in England, report having between one shelf of books and one bookcase of books at home. Only in Australia, Canada and Finland does this group of pupils have a significantly larger amount of books at home.
- In England, the lowest 25 per cent of performers report that their parents show interest in school related issues about once or twice a week. In two thirds of the comparison countries, pupils report that their parents were significantly more interested in their school related issues.
- In England, the lowest 25 per cent of performers report that on average they spend less than one hour per day reading outside of school. In over two thirds of the comparison countries this group of pupils reports spending significantly more time reading outside of school.

³ This is equivalent to Grade 4.

-
- The lowest quartile of performers in England spends equal amount of time reading stories, novels and books as they do reading magazines and comics (between twice a month to once or twice a week). In the five countries (e.g. Northern Ireland and Poland) this group of pupils spend significantly more time reading stories, novels and books, and relatively less time reading magazines and comics.
 - In England, the lowest 25 per cent of performers are somewhat interested in reading. In a third of the comparison countries pupils report significantly higher interest in reading.
 - The reading motivation of the lowest performing quartile of pupils in England is comparable to the majority of comparison countries. However, in ten countries, among them the Republic of Ireland, Denmark, Lithuania and Spain, pupils report significantly higher reading motivation.
 - There are no overall patterns in the data to suggest an association between characteristics of the home environment (e.g. books in the home) and the performance of the lowest 25 per cent of performers. The same is true of attitudes to learning.
 - In England, more boys than girls do not reach the *Low International Benchmark*. This gender gap is larger than in countries with comparable overall performance.
 - There is also a gender gap at the *Advanced International Benchmark* with more girls than boys performing at this highest level. In almost none of the comparison countries is the gender gap at the *Advanced International Benchmark* larger than in England.

3 Data and analysis

3.1 Sample

For the analysis we selected a subsample of countries participating in PIRLS 2011. This subsample comprises countries from the European Union and member countries from the Organisation for Economic Co-operation and Development (OECD). In addition to England and Northern Ireland, the following countries were included in the comparative analysis: Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Lithuania, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden and the United States.

3.2 Interpreting the data

The PIRLS reading achievement scale was established in PIRLS 2001 – the first assessment cycle – to have a centrepiece of 500 and a standard deviation of 100. It was designed to remain constant from assessment to assessment, allowing comparison over time.

When interpreting findings from international large-scale assessments it is important to know what can be reasonably concluded from the PIRLS data and which interpretations would be going beyond what can be reliably supported by the results.

Most importantly, there are two sources of uncertainty which have to be taken into account in the statistical analysis and interpretation of any results. These are described as *sampling error* and *measurement error*. The use of the term error does not imply that a mistake has been made; it simply highlights the necessary uncertainty. The smaller the standard error, the more precise the score is as an estimate of the population's score.

Sampling error stems from the inherent variation of human populations which can never be summarised with absolute accuracy. It affects virtually all research and data collection that makes use of sampling. Only if every 4th grader in each participating country had taken part in PIRLS could it be stated with certainty that the results are totally representative of the achievement of the entire population of pupils in that country. In reality the data was collected from a sample of 4th graders. Therefore the results are a best estimation of how the total population of 4th graders could be expected to perform on the tests. It is thus important to recognise that all data on performance and attitudes that is based on a sample carries a margin of error.

Measurement error relates to the results obtained by each individual pupil and takes account of variations in their score which are not directly due to underlying ability in the subject but which are influenced by other factors related to individuals or to the nature of the tests or testing conditions.

Standard errors need to be taken into account when judging differences between two countries because interpretations of small differences are often meaningless. Only statistically significant differences between scores are unlikely to have been caused by random fluctuations due to sampling or measurement error. Scores are significantly different if the confidence intervals of their scores do not overlap. The width of a measure's confidence interval can be calculated by subtracting and adding from the mean score its standard error times the square root of two:

—

with M being the mean of the estimate and SE its respective standard error.

3.3 Indices

In section 4.3 we will discuss findings for several pupil characteristics relating to home environment and pupils attitudes to learning. Rather than using individual variables in the analysis, some of those characteristics are summarised into indices because they are aiming to capture the same underlying characteristics or attitude. For all indices we ran principle component analyses to evaluate whether the individual variables load on the same factor, i.e. capture the same construct (e.g. parental interest). Subsequently, we evaluated whether a scale consisting of these variables would be a reliable measure of the construct. Only when variables captured the same construct and could be reliably measured, did we summarise them into an index that reflected the mean of pupils' answers to questions or statements posed in the individual variables.

Table 1 gives an overview of the indices, their constitutive variables and the scale reliability (Cronbach's α). Cronbach's α is a measure of a scale's internal consistency that indicates whether the variables reliably measure the construct. It ranges from 0 to 1, where reliability of below 0.5 is commonly viewed as unacceptable, 0.5 to 0.6 as poor, 0.6 to 0.7 as acceptable, 0.7 to 0.9 as good and above 0.9 as excellent.

Table 1 Indices, constitutive variables and scale reliability

Index	Constitutive variables	Scale reliability (Cronbach's α)
Parental interest	'My parents ask me what I am learning at school'	0.65
	'I talk about my school work with my parents'	
	'My parents make sure that I set aside time for my homework'	
Frequency of reading outside of school	'My parents check if I do my homework'	0.66
	'I read for fun'	
	'I read things that I choose myself'	
	'I read to find out about things I want to learn'	
Reading engagement	'I like what I read about in school'	0.80
	'My teacher gives me interesting things to read'	
	'I am interested in what my teacher says'	
	'My teacher gives me interesting things to do'	
General reading interest	'I would be happy if someone gives me a book as a present'	0.82
	'I think reading is boring'	
	'I would like to have more time for reading'	
	'I enjoy reading'	
Reading self-concept	'I usually do well in reading'	0.71
	'Reading is easy for me'	
	'My teacher tells me I am a good reader'	
	'I like to read things that make me think'	
Reading motivation	'It is important to be a good reader'	0.75
	'My parents like it when I read'	
	'I learn a lot from reading'	
	'I need to read well for my future'	
	'I like it when a book helps me imagine other worlds'	

4 Results

4.1 Achievement in PIRLS 2011

Research Question: How does the reading achievement, in PIRLS, of the highest and lowest performing pupils in England compare with reading achievement of the highest and lowest performing pupils in the comparison countries?

4.1.1 Achievement levels

England's average reading score, 552, is significantly above the international average. Of the 29 comparison countries, only Finland and Northern Ireland have average reading scores that are significantly higher than England's. England's overall performance was comparable with the performance of the Canada, Croatia, Czech Republic, Denmark, the Netherlands, Republic of Ireland and the United States (US). This means that on average pupils in these countries have similar reading attainment to pupils in England.

In the commentary the following countries (with similar average reading scores to England) will be referred to as 'Group 1': **Canada, Croatia, Czech Republic, Denmark, Netherlands, Republic of Ireland and the United States**⁴.

Within Group 1 England's range of achievement is significantly wider than that seen in the comparison countries (it is also significantly wider than Finland). This wide range of attainment means that while the most able readers in England were among the best readers who took part in PIRLS 2011, the least able readers were among the weakest readers in the survey. However, some countries in the larger comparison group had distributions of achievement that were comparable to those seen in England; England's distribution is not significantly wider than that of Bulgaria, Australia, Israel, and Hungary.

More detailed results about the levels and ranges of achievement between the comparison countries can be found in Table A1 in the appendix.

4.1.2 Achievement benchmarks

The PIRLS achievement scales summarise pupil performance on a scale with a centre point of 500 and a standard deviation of 100. PIRLS reports achievement at four points along the scale as international benchmarks to allow a more meaningful interpretation of scores on the reading scale (Mullis, Martin, Foy & Drucker, 2012). The Advanced International Benchmark is set at a scale score of 625, the High International Benchmark at 550, the Intermediate International Benchmark at 475, and the Low International Benchmark at 400. The benchmark descriptions

⁴ Group 1 does not include Finland and Northern Ireland.

summarise what pupils scoring at each PIRLS International Benchmark typically know and can do in reading.

For example, pupils at the *Low International Benchmark* (400 to 475 score points) can locate, retrieve, and reproduce explicitly stated details or information in literary or informational texts. Pupils, on the next benchmark (*Intermediate International Benchmark*: 475 to 550 score points), can make, straightforward inferences about attributes, feelings and motivations about characters in literary texts or locate and reproduce two or three pieces of information from an informational text. Pupils at the *High International Benchmark* (550 to 625 score points) can typically locate and distinguish significant actions and details embedded across literary texts and make inferences from them to explain relationships between intentions, actions, events, and feelings. In informational texts they can, for example, locate and distinguish relevant information within a dense text or a complex table and make inferences about logical connections to provide explanations and reasons. At the *Advanced International Benchmark* (at or above 625 score points) pupils can, for example, integrate ideas and evidence across a literary text to appreciate overall themes. In informational texts pupils at this level can, for example, distinguish and interpret complex information from different parts of the text, and provide full text-based support.

The percentage of pupils who do not reach the *Low International Benchmark* (400 to 475 score points) in England is significantly higher than a number of countries in Group 1: US, Denmark, Croatia, Canada, the Netherlands and Czech Republic. The percentage of pupils in England failing to reach the *Low International Benchmark* is similar to a number of countries with lower average reading scores, e.g. Bulgaria, Hungary, Lithuania, France and Spain.

Compared with the countries in Group 1, England has a relatively high percentage of pupils who are only able to reach the *Low International Benchmark*, although only in Croatia and the Netherlands is the percentage of pupils at this benchmark significantly lower than that seen in England. Again, the percentage of pupils in England at the *Low International Benchmark* is comparable to a number of the lower performing countries, e.g. Hungary, Slovak Republic, Portugal, Germany, Italy and Sweden.

England has among the highest percentage of pupils reaching the *Advanced International Benchmark* (at or over 625 score points). This percentage is comparable to Northern Ireland, Finland, US and Republic of Ireland.

Comparing the proportions of pupils at each of the international benchmarks in England and the Group 1 countries as well as Finland and Northern Ireland reveals some interesting country profiles. Finland, for example, has relatively few pupils at or below the *Low International Benchmark* (eight per cent) and a high percentage of pupils at the *Advanced International Benchmark* (18 per cent). In contrast, the Netherlands (Group 1) also have few pupils at or below the *Low International Benchmark* (ten per cent), but comparatively few students that reach the *Advanced International Benchmark* (seven per cent). England, Northern Ireland and the United States, however, present yet another profile: these countries have a higher

percentage of pupils below or at the *Low International Benchmark* (England: 18 per cent; Northern Ireland: 13 per cent; US: 14 per cent) and also have a comparatively high percentage of pupils at the *Advanced International Benchmark* (England: 18 per cent; Northern Ireland: 19 per cent; US: 17 per cent). It is interesting that all of these countries tested in English.

More detailed results about percentages of students on achievement benchmarks between the comparison countries can be found in Table A1.

4.1.3 PIRLS achievement benchmarks and Key Stage 2 National Curriculum levels

The PIRLS 2011 scale scores can be equated to the 2012 Key Stage 2 (KS2) test data for reading in England⁵. It is important to note that the analysis was based on the KS2 reading level data from the pupils in the PIRLS 2011 sample rather than national data (Table A2 provides information of the percentage of pupils achieving each of the National Curriculum levels nationally). This enables a comparison to be made between the international benchmarks and the KS2 National Curriculum levels for reading. For example, a PIRLS score of 430 (*Low International Benchmark*) is equivalent to National Curriculum Level 3 in reading. However, the comparison between National Curriculum levels and international benchmarks is not unambiguous as overlaps occur. For example, pupils at the PIRLS *High International Benchmark*, scale scores ranging from 550 to 625, can be assigned to National Curriculum levels 4 or 5, depending on their exact PIRLS scale score.

Table 2 shows a maximum of 23 per cent⁶ of pupils who achieved a Level 3 for reading at KS2 had achievement scores in PIRLS below the *Low International Benchmark* and a maximum of 52 per cent of pupils achieving Level 3 were assigned to the *Low International Benchmark*. This suggests that nearly a quarter of the pupils working at Level 3 had difficulty with PIRLS questions that required them to locate, retrieve and reproduce explicitly stated details or information in literary or informational texts. Similarly, a maximum of 50 per cent of pupils achieving Level 5 for reading at KS2 had scores in PIRLS at the *High International Benchmark* and a maximum of 33 per cent of the pupils achieving Level 5 were assigned to the *Advanced International Benchmark*. The data at the extremes (i.e. Level N and Level 6) should be treated with caution as it represents very small numbers of pupils.

Overall, pupils with higher National Curriculum levels also achieved higher mean scores in PIRLS 2011. The National Curriculum levels and the international benchmarks seem to be closely associated. That is, as the level of attainment increases (as measured by the National Curriculum levels) so does the proportion of pupils achieving the higher international benchmarks. This suggests that the weakest

⁵ Please refer to all the results and inferences made in this section referring to Table A2 as sourced from an unpublished report commissioned by the Department for Education.

⁶ Because of the five plausible values on the international achievement scale no unambiguous assignment of a PIRLS score on a National Curriculum level can be established. Rather a range of possible percentages is provided (Table A2).

performers in PIRLS are also the lowest attainers in the national KS2 reading assessment.

Table 2 Percentage of pupils in England at National Curriculum levels in reading and at each of the PIRLS international benchmarks

Key Stage 2 reading level	PIRLS international benchmarks									
	Below 400		Low (from 400 to 475)		Intermediate (from 475 to 550)		High (from 550 to 625)		Advanced (at or above 625)	
	Min %	Max %	Min %	Max %	Min %	Max %	Min %	Max %	Min %	Max %
Level N	51	64	34	39	2	12	0	0	0	0
Level 3	19	23	46	52	22	32	1	3	0	0
Level 4	3	4	18	20	47	49	27	28	2	3
Level 5	0	0	1	2	16	17	48	50	32	33
Level 6	0	0	0	0	0	0	0	29	71	100

Source: Department for Education and NFER (2014): The link between national attainment and attainment in TIMSS and PIRLS Research Report.

Note: Because of the five plausible values on the international attainment scale no definite categorisation of a PIRLS attainment score on national curriculum levels can be established; rather a range of possible percentages is provided

4.2 Educational inequality

Research Question: How unequal is the distribution of the performance of England's pupils compared with other countries?

4.2.1 Reading achievement on the 5th and 95th percentile across comparison countries

One of the ways of looking at the spread of performance in a country is to look at the distribution of scores. The 5th percentile is the score at which five per cent of pupils score lower, while the 95th percentile is the score at which five per cent score higher. The difference between the highest and lowest attainers at the 5th and 95th percentiles is a better measure of the spread of scores for comparing countries than using the lowest and highest scoring pupils. Comparison of the 5th and 95th percentiles gives a better idea of the typical spread of attainment.

Table A2 gives a detailed overview of the average achievement on the 5th and 95th percentile for the comparison countries.

The average scale score of pupils in England at the 5th percentile was 404. In all of the Group 1 countries the score of pupils at the 5th percentile was significantly higher than in England, with the exception of the Republic of Ireland. When we look at the score of pupils at the 95th percentile, England's scale score is among the highest of all the comparison countries, comparable to those of Finland, the Republic of Ireland, Israel, New Zealand, Northern Ireland and the United States.

In England, the score difference between the 5th and 95th percentile is 274 points. England has a larger range than all of the countries within Group 1 (Canada: 230; Croatia: 200; Czech Republic: 205; Denmark: 215; Netherlands: 178; Republic of Ireland: 248; United States: 243).

In order to make the distributions of achievement scores from the international surveys (e.g. PISA and PIRLS) more meaningful attempts have been made to explore how they might be translated into years of schooling. In the context of the PISA study, the OECD has further looked into this aspect (OECD, 2014). In PIRLS approaches for translating differences in achievement scores into years of schooling are less well developed. However, in 2006 Iceland and Norway administered PIRLS in two adjacent grades (four and five), which allowed a calculation of the average difference in reading achievement between the two grades in these countries. Research by Martin, Mullis and Foy (2011) suggests that the difference of approximately 40 score points (38 for Iceland, 42 for Norway) could be interpreted as the expected difference in achievement as pupils go from grade four to grade five. However, difference in scores cannot be interpreted solely as the effects of an extra year of schooling. Rather, they are confounded with 'learning experiences in the home and community as students became a year older' (Martin, Mullis & Foy, 2011, p. 28). Tentatively, the score difference between the 5th and 95th percentile in England could be interpreted as an approximate difference of seven school years between the weakest and strongest performers in England. In all other countries

within Group 1 differences between the weakest and strongest performers may be translated into five to six years of schooling or, as in the Netherlands, four years of schooling. Similarly high differences as are seen in England can be seen in Australia, Bulgaria, Hungary, the Republic of Ireland and Romania.

However, these results are not without limitation and we recommend a very careful interpretation, since a) the 40-point criteria is based on an evaluation of adjacent grade scores in two countries only and b) because the only evidence we have is the score difference between grade 4 and grade 5 (i.e. upper primary) and this may differ with older/younger pupils.

4.3 Home environment and attitudes to learning

Research Question: Who are the low achieving pupils across different countries and what are their key characteristics in terms of their home environment?

For the following comparative analysis we selected the lowest achieving quartile of pupils in each comparison country in order to investigate differences in their key home environmental characteristics.

In England, the average reading achievement score of those in the lowest quartile is 500. For the analysis presented below the 29 comparison countries have been grouped according to how the average reading achievement score of those in the lowest quartile compares to England's.

Group 2 (countries with similar average reading scores of the lowest quartile of performers to England): **Canada, Czech Republic, Germany, Hungary, Italy, Netherlands, Portugal, Republic of Ireland, Slovak Republic and Sweden.**

Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers): **Croatia, Denmark, Finland, Northern Ireland and the Unites States.**

Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers): **Australia, Austria, Belgium (French), Bulgaria, France, Israel, Lithuania, New Zealand, Norway, Poland, Romania, Slovenia and Spain.**

In the tables below countries in Group 2 are highlighted in light blue, the countries in Group 3 are highlighted in pink and the countries in Group 4 are highlighted in green.

4.3.1 The number of books at home

Number of books at home is a single variable asking pupils for the number of books they have at home. Response categories are: 1=0-10 books, 2=11-25 books, 3=26-100 books, 4=101-200 books, 5=over 200 books (supported by the graphic in the questionnaire showing book shelves).

Table 3 Number of books at home for the lowest 25 per cent of performers

Country	Average ' <i>Number of books at home</i> ' score		
	Score	SE	Sig. Dif
Canada	2.8	(0.02)	^
Czech Republic	2.7	(0.06)	
Germany	2.6	(0.06)	
Hungary	2.3	(0.05)	v
Italy	2.4	(0.04)	v
Netherlands	2.7	(0.04)	
Portugal	2.3	(0.06)	v
Republic of Ireland	2.5	(0.05)	v
Slovak Republic	2.3	(0.06)	v
Sweden	2.7	(0.04)	
Croatia	2.2	(0.04)	v
Denmark	2.7	(0.04)	
Finland	2.9	(0.05)	^
Northern Ireland	2.4	(0.05)	v
United States	2.5	(0.03)	v
Australia	2.9	(0.05)	^
Austria	2.4	(0.05)	v
Belgium (France)	2.5	(0.06)	
Bulgaria	1.8	(0.06)	v
France	2.6	(0.05)	
Israel	2.8	(0.06)	
Lithuania	2.2	(0.04)	v
New Zealand	2.6	(0.05)	
Norway	2.8	(0.08)	
Poland	2.4	(0.04)	v
Romania	1.7	(0.06)	v
Slovenia	2.5	(0.05)	
Spain	2.6	(0.05)	
England	2.7	(0.05)	

^ The score is significantly higher than England's

v The score is significantly lower than England's

In England, the lowest 25 per cent of performers report that they have between one shelf of books and one bookcase of books (they have an average score of 2.7 on the books in the home measure).

In only three countries do the lowest 25 per cent of performers have a significantly larger amount of books at home (Australia, Canada, and Finland).

Among the comparison countries there appears to be no overall pattern to suggest an association between the number of books in the home and the average performance of the lowest 25 per cent of performers. For example, Croatia's score for the lowest 25 per cent of performers is significantly higher than England's, but the amounts of books pupils in this quartile have, is significantly lower. The opposite is true for Australia.

More detailed information about the number of books at home for the lowest 25 per cent of performers for comparison countries can be found in Table A3.

4.3.2 Home possessions

Home possessions is a sum score of questions asking pupils whether they have the following resources for learning at home: a computer, a study desk or table, own books, an own room, internet connection. Response categories range from 0=none of these resources to 5=all five of these resources.

Table 4 Home possessions for the lowest 25 per cent of performers by country

Country	Average ' <i>Home possessions</i> ' score		
	Score	SE	Sig. Dif
Canada	4.3	(0.04)	^
Czech Republic	4.2	(0.04)	
Germany	4.3	(0.04)	^
Hungary	3.8	(0.09)	∨
Italy	3.7	(0.04)	∨
Netherlands	4.6	(0.03)	^
Portugal	4.3	(0.04)	^
Republic of Ireland	3.9	(0.04)	∨
Slovak Republic	3.5	(0.08)	∨
Sweden	4.6	(0.03)	^
Croatia	4.2	(0.04)	
Denmark	4.7	(0.02)	^
Finland	4.5	(0.03)	^
Northern Ireland	4.1	(0.06)	
United States	3.8	(0.03)	∨
Australia	4.2	(0.04)	
Austria	4.3	(0.03)	^
Belgium (France)	4.0	(0.04)	
Bulgaria	3.0	(0.13)	∨
France	3.9	(0.05)	∨
Israel	3.2	(0.06)	∨
Lithuania	3.7	(0.04)	∨
New Zealand	3.8	(0.04)	∨
Norway	4.4	(0.04)	^
Poland	3.6	(0.05)	∨
Romania	2.6	(0.11)	∨
Slovenia	4.2	(0.05)	
Spain	4.2	(0.05)	
England	4.1	(0.04)	

^ The score is significantly higher than England's

∨ The score is significantly lower than England's

In England, the lowest 25 per cent of performers report that they have approximately four of the five home learning resources listed in the questionnaire (they have a scores of 4.1 on the home possessions index).

Among the comparison countries there is no overall pattern to suggest an association between learning resources in the home and the performance of the lowest 25 per cent of performers. For example, the Netherland's mean score for the lowest 25 per cent of performers is comparable to that of England, but pupils have significantly more home learning resources. However, in Norway although the respective pupils have a significantly lower mean achievement score they have significantly more home learning resources than pupils in England.

More detailed information about the average number of home possessions for the lowest 25 per cent of performers for comparison countries can be found in Table A4.

4.3.3 Parental interest

Parental interest is an index score of questions related to the frequency with which the following things happen at home: 'My parents ask me what I am learning at school', 'I talk about my school work with my parents', 'My parents make sure that I set aside time for my homework', 'My parents check if I do my homework'. Response categories range from: 1=never to 4=every day.

Table 5 Parental interest for the lowest 25 per cent of performers by country

Country	Average 'Parental interest' score		
	Score	SE	Sig. Dif
Canada	3.3	(0.02)	^
Czech Republic	3.6	(0.02)	^
Germany	3.4	(0.04)	^
Hungary	3.5	(0.03)	^
Italy	3.4	(0.03)	^
Netherlands	3.3	(0.03)	
Portugal	3.5	(0.03)	^
Republic of Ireland	3.4	(0.03)	^
Slovak Republic	3.5	(0.04)	^
Sweden	3.4	(0.03)	^
Croatia	3.5	(0.02)	^
Denmark	3.5	(0.02)	^
Finland	3.2	(0.03)	
Northern Ireland	3.4	(0.03)	^
United States	3.2	(0.02)	
Australia	3.2	(0.03)	
Austria	3.6	(0.03)	^
Belgium (France)	3.5	(0.03)	^
Bulgaria	3.1	(0.07)	
France	3.4	(0.02)	^
Israel	3.3	(0.03)	
Lithuania	3.5	(0.03)	^
New Zealand	3.2	(0.03)	
Norway	3.3	(0.04)	
Poland	3.5	(0.02)	^
Romania	3.2	(0.08)	
Slovenia	3.6	(0.02)	^
Spain	3.5	(0.02)	^
England	3.3	(0.03)	

^ The score is significantly higher than England's

v The score is significantly lower than England's

In England, the lowest 25 per cent of performers report that their parents show interest in school related issues about once or twice a week (they have a score of 3.3 on the index of parental interest).

None of the comparison countries have a significantly lower score on the parental interest index than England.

Two thirds of the comparison countries have significantly higher scores on the parental interest index, indicating that pupils in these countries reported that their parents were significantly more interested in their school related issues. Among them are Group 2 countries, Group 3 countries and Group 4 countries.

The level of parental interest in school related issues reported by the lowest performing 25 per cent of pupils is comparable, i.e. not statistically different, to that seen in ten of the comparison countries including Romania, Israel, Australia and Norway.

There is no overall pattern to suggest an association between level of parental interest (as reported by pupils) and the mean achievement of the lowest 25 per cent of performers.

More detailed information about parental interest for the lowest 25 per cent of performers for comparison countries can be found in Table A5.

4.3.4 Time spent reading outside of school

Time spent reading outside of school per day is a single variable asking pupils about the time they spend reading outside of school per day. Answer categories are: 1=less than 30 minutes, 2=30 minutes to one hour, 3=one hour to two hours and 4=two hours or more.

Table 6 Time spent reading outside of school per day for the lowest 25 per cent of performers by country

Country	Average 'Time spent reading outside school' score		
	Score	SE	Sig. Dif
Canada	1.6	(0.03)	^
Czech Republic	1.8	(0.04)	^
Germany	1.9	(0.04)	^
Hungary	1.8	(0.04)	^
Italy	1.7	(0.04)	^
Netherlands	1.7	(0.03)	^
Portugal	1.6	(0.04)	
Republic of Ireland	1.7	(0.04)	^
Slovak Republic	1.7	(0.04)	^
Sweden	1.4	(0.02)	v
Croatia	1.8	(0.03)	^
Denmark	1.5	(0.03)	
Finland	1.6	(0.03)	
Northern Ireland	1.6	(0.03)	
United States	1.6	(0.02)	^
Australia	1.6	(0.04)	
Austria	1.9	(0.03)	^
Belgium (France)	1.8	(0.04)	^
Bulgaria	1.8	(0.06)	^
France	1.7	(0.03)	^
Israel	2.1	(0.04)	^
Lithuania	1.8	(0.04)	^
New Zealand	1.6	(0.03)	
Norway	1.4	(0.04)	v
Poland	1.8	(0.04)	^
Romania	1.8	(0.07)	^
Slovenia	1.8	(0.03)	^
Spain	1.8	(0.03)	^
England	1.5	(0.03)	

^ The score is significantly higher than England's

v The score is significantly lower than England's

In England, the lowest 25 per cent of performers spend less than one hour per day reading outside of school (they have a score of 1.6 on the variable time spent reading outside of school per day).

Only Norway and Sweden have a significantly lower score for time spent reading outside of school per day.

In over two thirds of the comparison countries the lowest 25 per cent report spend significantly more time reading outside of school. Among them are Group 2 countries, Group 3 countries and Group 4 countries.

There is no overall pattern to suggest an association between time spent reading outside of school per day and the mean achievement of the lowest 25 per cent of performers between countries are directly related to differences in the mean achievement of the lowest 25 per cent of performers. For example, Denmark's (Group 3) score on the variable is comparable to England's and Australia's (Group 4).

More detailed information about the time the lowest 25 per cent of performers spends reading outside of school for comparison countries can be found in Table A6.

4.3.5 Frequency of reading outside of school

Frequency of reading outside of school is an index score of questions relating to the frequency with which pupils do the following outside of school: 'I read for fun', 'I read things that I choose myself', and 'I read to find out about things I want to learn'. Answer categories are: 1=never, 2=once or twice a month, 3=once or twice a week and 4=every day.

Table 7 Frequency with which pupils read outside of school for the lowest 25 per cent of performers by country

Country	Average ' <i>Frequency of reading outside school</i> ' score		
	Score	SE	Sig. Dif
Canada	3.0	(0.02)	^
Czech Republic	3.1	(0.03)	^
Germany	3.0	(0.04)	^
Hungary	3.0	(0.05)	
Italy	3.0	(0.03)	^
Netherlands	2.7	(0.04)	v
Portugal	3.3	(0.03)	
Republic of Ireland	3.0	(0.04)	^
Slovak Republic	2.9	(0.03)	
Sweden	2.9	(0.04)	
Croatia	2.9	(0.03)	
Denmark	3.0	(0.03)	^
Finland	2.7	(0.03)	
Northern Ireland	2.9	(0.05)	
United States	2.9	(0.02)	
Australia	2.9	(0.03)	
Austria	3.2	(0.03)	^
Belgium (France)	3.1	(0.04)	^
Bulgaria	2.8	(0.06)	
France	2.9	(0.03)	
Israel	3.1	(0.03)	^
Lithuania	3.2	(0.03)	^
New Zealand	3.0	(0.03)	^
Norway	2.8	(0.05)	
Poland	3.0	(0.03)	^
Romania	3.0	(0.07)	^
Slovenia	3.1	(0.04)	^
Spain	3.2	(0.03)	^
England	2.8	(0.04)	

^ The score is significantly higher than England's

v The score is significantly lower than England's

In England, the lowest 25 per cent of performers report that they undertake self-directed reading activities approximately once or twice a week (they have a score of 2.8 on the index frequency of reading outside of school).

Only the Netherlands have a significantly lower score for pupils' frequency of reading outside of school.

In just over half of the comparison countries, this group of pupils report that they undertake these reading activities significantly more often. Among them are Group 2 countries and Group 4 countries. Interestingly in none of the countries who are performing significantly better than England do pupils report they undertake these reading activities significantly more often.

Thus, there is no overall pattern to suggest an association between the frequency of reading outside of school and the achievement the lowest 25 per cent of performers. For example, Croatia's (Group 3) index score is comparable to England's and so is Norway's (Group 4).

More detailed information about the frequency with which the lowest 25 per cent of performers spends reading outside of school for comparison countries can be found in Table A7.

4.3.6 Frequency of reading stories, novels and books that explain things outside of school

Frequency of reading stories, novels, and books is an index score of questions relating to the frequency with which pupils do the following outside of school: 'I read stories or novels' and 'I read books that explain things'. Response categories range from 1=never to 4=every day.

Table 8 Frequency with which pupils read stories, novels and books outside of school for the lowest 25 per cent of performers by country

Country	Average 'Frequency of reading novels, stories and books' score		
	Score	SE	Sig. Dif
Canada	2.8	(0.03)	^
Czech Republic	2.3	(0.04)	∇
Germany	2.4	(0.04)	∇
Hungary	2.7	(0.05)	
Italy	2.4	(0.03)	∇
Netherlands	2.7	(0.03)	
Portugal	3.0	(0.03)	^
Republic of Ireland	2.8	(0.04)	^
Slovak Republic	2.3	(0.03)	∇
Sweden	2.5	(0.04)	∇
Croatia	2.6	(0.03)	
Denmark	2.6	(0.03)	
Finland	2.2	(0.03)	∇
Northern Ireland	2.8	(0.05)	^
United States	2.6	(0.02)	
Australia	2.7	(0.04)	
Austria	2.5	(0.04)	
Belgium (France)	2.7	(0.04)	
Bulgaria	2.3	(0.06)	∇
France	2.6	(0.04)	
Israel	3.0	(0.04)	^
Lithuania	2.6	(0.04)	
New Zealand	2.9	(0.03)	^
Norway	2.3	(0.05)	∇
Poland	2.9	(0.04)	^
Romania	2.5	(0.08)	
Slovenia	2.6	(0.03)	
Spain	2.6	(0.03)	
England	2.6	(0.04)	

^ The score is significantly higher than England's

∇ The score is significantly lower than England's

In England, the lowest 25 per cent of performers have a score of 2.6 on the index measuring the frequency of reading stories, novels, and books, relating to a frequency of approximately once or twice a month to once or twice a week.

Seven countries have significantly higher scores on the index. Among them Group 2 countries (Canada, Portugal and Republic of Ireland), Northern Ireland from Group 3, and Group 4 countries (Israel, New Zealand and Poland).

Pupils' frequency of reading stories, novels, and books in England is comparable, i.e. not statistically different, to nearly half of the comparison countries, including countries from each of the three comparison groups.

Among the comparison countries there appears to be no overall pattern to suggest an association between the frequency of reading stories, novels, and books outside of school and the performance of the lowest performing 25 per cent of pupils.

More detailed information about the frequency with which the lowest 25 per cent of performers reads stories, novels and books that explain things outside of school for comparison countries can be found in Table A8.

4.3.7 Reading magazines and comics outside of school

Frequency of reading magazines and comics is an index score of questions relating to the frequency with which pupils do the following outside of school: 'I read magazines' and 'I read comic books'. Answer categories are 1=never, 2=once or twice a month, 3=once or twice a week and 4=every day.

Table 9 Frequency with which pupils read magazines and comics outside of school for the lowest 25 per cent of performers by country

Country	Average ' <i>Frequency of magazines and comics</i> ' score		
	Score	SE	Sig. Dif
Canada	2.5	(0.03)	
Czech Republic	2.8	(0.04)	^
Germany	2.4	(0.04)	
Hungary	2.6	(0.05)	
Italy	2.4	(0.04)	v
Netherlands	2.5	(0.04)	
Portugal	2.6	(0.04)	
Republic of Ireland	2.5	(0.04)	
Slovak Republic	2.5	(0.04)	
Sweden	2.3	(0.04)	v
Croatia	2.8	(0.04)	^
Denmark	2.3	(0.03)	v
Finland	2.5	(0.03)	
Northern Ireland	2.6	(0.04)	
United States	2.5	(0.02)	
Australia	2.4	(0.04)	v
Austria	2.5	(0.04)	
Belgium (France)	2.6	(0.04)	
Bulgaria	2.3	(0.06)	v
France	2.4	(0.04)	
Israel	2.5	(0.04)	
Lithuania	2.6	(0.05)	
New Zealand	2.5	(0.04)	
Norway	2.7	(0.05)	^
Poland	2.4	(0.04)	
Romania	2.4	(0.06)	v
Slovenia	2.7	(0.04)	^
Spain	2.4	(0.03)	v
England	2.6	(0.04)	

^ The score is significantly higher than England's

v The score is significantly lower than England's

In England, the lowest 25 per cent of performers have a score of 2.6 on the index measuring the frequency of reading magazines and comics, relating to a frequency of approximately once or twice a month to once or twice a week.

Only four countries, Croatia, Czech Republic, Norway and Slovenia have significantly higher scores on the index.

Thus, there is no overall pattern to suggest an association between the frequency of reading magazines and comics and the average achievement of the lowest 25 per cent of performers.

More detailed information about the frequency with which the lowest 25 per cent of performers reads magazines and comics outside of school for comparison countries can be found in Table A9.

4.3.8 Reading engagement at school

Reading engagement at school is an index score of questions relating to pupils agreement to the following statements: 'I like what I read about in school', 'My teacher gives me interesting things to read', 'I am interested in what my teacher says', 'My teacher gives me interesting things to do'. Answer categories are 1=disagree a lot, 2=disagree a little, 3=agree a little and 4=agree a lot.

Table 10 Reading engagement at school for the lowest 25 per cent of performers by country

Country	Average ' <i>Reading engagement at school</i> ' score		
	Score	SE	Sig. Dif
Canada	3.2	(0.02)	
Czech Republic	3.1	(0.04)	
Germany	3.1	(0.03)	∨
Hungary	3.3	(0.03)	
Italy	3.3	(0.02)	∧
Netherlands	2.9	(0.04)	∨
Portugal	3.6	(0.02)	∧
Republic of Ireland	3.3	(0.03)	
Slovak Republic	3.3	(0.03)	
Sweden	3.2	(0.03)	
Croatia	3.3	(0.03)	
Denmark	3.1	(0.03)	∨
Finland	2.9	(0.03)	∨
Northern Ireland	3.3	(0.03)	
United States	3.2	(0.02)	
Australia	3.1	(0.03)	∨
Austria	3.2	(0.03)	
Belgium (France)	3.3	(0.04)	
Bulgaria	3.6	(0.04)	∧
France	3.3	(0.04)	
Israel	3.3	(0.03)	
Lithuania	3.3	(0.03)	
New Zealand	3.3	(0.03)	
Norway	3.2	(0.05)	
Poland	3.3	(0.02)	
Romania	3.5	(0.06)	∧
Slovenia	3.3	(0.03)	
Spain	3.4	(0.03)	
England	3.3	(0.04)	

∧ The score is significantly higher than England's

∨ The score is significantly lower than England's

In England, the lowest 25 per cent of performers are relatively engaged in their reading at school (they have a score of 3.3 on the reading engagement at school index).

England's score for reading engagement is comparable, i.e. not statistically different, to the majority of the comparison countries (including countries in Group 2, 3 and 4).

In four comparison countries: Portugal and Italy (Group 2), Bulgaria and Romania (Group 4) the lowest 25 per cent appear to be significantly more engaged in their reading at school.

Interestingly when we look at Group 3 (those countries with significantly higher average reading scores), two of these countries Denmark and Finland have significantly lower scores for reading engagement.

There appears to be no overall pattern to suggest an association between levels of reading engagement and achievement of the lowest 25 per cent of performers.

More detailed information about reading engagement at school for the lowest 25 per cent of performers for comparison countries can be found in Table A10.

4.3.9 General reading interest

General reading interest is an index score of questions relating to pupils agreement to the following statements: 'I would be happy if someone gives me a book as a present', 'I think reading is boring'⁷, 'I would like to have more time for reading', and 'I enjoy reading'. Response categories range from 1=disagree a lot to 4=agree a lot.

Table 11 General reading interest for the lowest 25 per cent of performers by country

Country	Average ' <i>General reading interest</i> ' score		
	Score	SE	Sig. Dif
Canada	3.1	(0.02)	^
Czech Republic	3.0	(0.04)	^
Germany	2.9	(0.03)	
Hungary	2.8	(0.04)	
Italy	3.0	(0.03)	^
Netherlands	2.7	(0.03)	
Portugal	3.4	(0.03)	^
Republic of Ireland	3.0	(0.04)	^
Slovak Republic	2.9	(0.04)	
Sweden	2.8	(0.03)	
Croatia	2.7	(0.03)	v
Denmark	2.7	(0.03)	v
Finland	2.7	(0.04)	v
Northern Ireland	2.9	(0.04)	
United States	2.8	(0.03)	
Australia	2.9	(0.04)	
Austria	2.9	(0.04)	
Belgium (France)	3.0	(0.03)	
Bulgaria	3.0	(0.05)	^
France	3.0	(0.03)	^
Israel	3.1	(0.04)	^
Lithuania	3.0	(0.04)	^
New Zealand	3.0	(0.03)	^
Norway	3.0	(0.06)	
Poland	2.8	(0.03)	
Romania	3.1	(0.05)	^
Slovenia	2.8	(0.04)	
Spain	3.1	(0.03)	^
England	2.9	(0.05)	

^ The score is significantly higher than England's

v The score is significantly lower than England's

⁷ This negatively phrased item has been reversed before constructing the *General reading interest* scale.

In England, the lowest 25 per cent of performers have a score of 2.9 on the general reading interest index, i.e. on average they agree a little with the above statements.

Only three countries have a significantly lower score for general reading interest than England: Finland, Croatia and Denmark (Group 3: countries with significantly higher average reading scores).

However, over a third of the comparison countries (13) have significantly higher scores on the index. This includes countries with comparable reading scores (Group 2) and significantly lower reading scores (Group 4).

As was the case with reading engagement, there is no overall pattern to suggest an association between differences in the general reading interest and the achievement of the lowest 25 per cent of performers.

More detailed information about the general reading interest of the lowest 25 per cent of performers for comparison countries can be found in Table A11.

4.3.10 Reading self-concept

Reading self-concept is an index score of questions relating to pupils' agreement to the following statements: 'I usually do well in reading', 'Reading is easy for me', and 'My teacher tells me I am a good reader'. Answer categories are 1=disagree a lot, 2=disagree a little, 3=agree a little and 4=agree a lot.

Table 12 Reading self-concept the lowest 25 per cent of performers by country

Country	Average ' <i>Reading self-concept</i> ' score		
	Score	SE	Sig. Dif
Canada	3.2	(0.01)	
Czech Republic	2.9	(0.03)	∨
Germany	3.0	(0.03)	∨
Hungary	3.0	(0.04)	∨
Italy	3.1	(0.02)	
Netherlands	3.0	(0.02)	∨
Portugal	3.0	(0.02)	∨
Republic of Ireland	3.2	(0.03)	
Slovak Republic	2.9	(0.03)	∨
Sweden	3.3	(0.02)	∧
Croatia	3.2	(0.03)	
Denmark	3.2	(0.02)	
Finland	3.2	(0.03)	
Northern Ireland	3.2	(0.03)	
United States	3.1	(0.02)	
Australia	3.1	(0.02)	
Austria	3.2	(0.03)	
Belgium (France)	3.0	(0.03)	∨
Bulgaria	3.1	(0.05)	
France	2.9	(0.03)	∨
Israel	3.3	(0.03)	∧
Lithuania	3.0	(0.03)	
New Zealand	3.1	(0.02)	
Norway	3.3	(0.03)	∧
Poland	2.9	(0.03)	
Romania	3.0	(0.06)	
Slovenia	3.0	(0.03)	∨
Spain	3.1	(0.03)	
England	3.1	(0.04)	

∧ The score is significantly higher than England's

∨ The score is significantly lower than England's

In England, the lowest 25 per cent of performers have a score of 3.1 on the reading self-concept index, i.e. on average they agree a little with the above statements.

Only three countries, Sweden (Group 2), Norway and Israel (Group 4) have significantly higher scores on this index.

Pupils' reading self-concept in England is comparable, i.e. not statistically different, to over half of the comparison countries, including all Group 3 countries and a number of Group 4 countries.

Once again, there is no overall pattern to suggest an association between differences in the reading self-concept and achievement of the lowest 25 per cent of performers.

More detailed information about the reading self-concept of the lowest 25 per cent of performers for comparison countries can be found in Table A12.

4.3.11 Reading motivation

Reading motivation is an index score of questions relating to pupils' agreement to the following statements: 'I like to read things that make me think', 'It is important to be a good reader', 'My parents like it when I read', 'I learn a lot from reading', 'I need to read well for my future', and 'I like it when a book helps me imagine other worlds'. Response categories range from 1=disagree a lot to 4=agree a lot.

Table 13 Reading motivation for the lowest 25 per cent of performers by country

Country	Average 'Reading motivation' score		
	Score	SE	Sig. Dif
Canada	3.5	(0.01)	^
Czech Republic	3.4	(0.03)	
Germany	3.4	(0.02)	
Hungary	3.3	(0.03)	∇
Italy	3.4	(0.02)	
Netherlands	3.4	(0.03)	
Portugal	3.6	(0.02)	^
Republic of Ireland	3.5	(0.02)	^
Slovak Republic	3.4	(0.03)	
Sweden	3.5	(0.02)	^
Croatia	3.6	(0.02)	^
Denmark	3.6	(0.02)	^
Finland	3.3	(0.02)	∇
Northern Ireland	3.4	(0.03)	
United States	3.4	(0.02)	
Australia	3.4	(0.03)	
Austria	3.5	(0.02)	
Belgium (France)	3.5	(0.03)	
Bulgaria	3.4	(0.04)	
France	3.5	(0.03)	
Israel	3.5	(0.02)	^
Lithuania	3.5	(0.02)	^
New Zealand	3.4	(0.02)	
Norway	3.6	(0.02)	^
Poland	3.4	(0.02)	
Romania	3.4	(0.07)	
Slovenia	3.4	(0.02)	
Spain	3.6	(0.02)	^
England	3.4	(0.03)	

^ The score is significantly higher than England's

∇ The score is significantly lower than England's

In England, the lowest 25 per cent of performers have a score of 3.4 on the reading self-concept index, i.e. on average they agree (from a little to a lot) with the above statements.

Only in Finland and Hungary are scores significantly lower than in England.

In the majority of comparison countries (17 in total including countries from Group 2, 3 and 4) pupils' reading motivation is comparable to that seen in England.

Suggesting the lowest 25 per cent of pupils in the majority of the comparison countries are similarly motivated in their reading the same group of pupils in England

There is, therefore, no overall pattern to suggest an association between pupils reading motivation and differences in achievement of the lowest 25 per cent of performers.

More detailed information about the reading motivation of the lowest 25 per cent of performers for comparison countries can be found in Table A13.

4.4 Gender gaps

Research Question: How does the difference between the reading performance of boys and girls in England compare with other countries?

In the commentary the following countries (with similar average reading scores to England) will be referred to as 'Group 1': **Canada, Croatia, Czech Republic, Denmark, Netherlands, Republic of Ireland and United States**⁸.

In England three per cent of girls and twice as many boys (six per cent) fail to reach the *Low International Benchmark* (they score below 400 points). This suggests that in England a larger number of boys had difficulty with PIRLS questions that required them to locate, retrieve and reproduce explicitly stated details or information in literary or informational texts. None of the countries in Group 1 have as big a gender difference as that seen in England. In addition, in only four of 29 comparison countries is the gender difference bigger than in England: Australia, New Zealand, Norway, and Romania (this has not been tested for statistical significance). More detailed information about differences in reading achievement of boys and girls for all comparison countries can be found in Table A14.

Within comparison Group 1 the percentage of girls in England below the *Low International Benchmark* is comparable, i.e. not significantly different, to Canada, the Republic of Ireland, and the United States. However, Croatia, Czech Republic, Denmark and the Netherlands have a significantly lower percentage of girls failing to reach the *Low International Benchmark*. This suggests that compared with these countries a larger number of girls in England had difficulty with PIRLS questions that required them to locate, retrieve and reproduce explicitly stated details or information in literary or informational texts.

In addition, the percentage of girls in England below the *Low International Benchmark* is comparable to number of countries in the wider comparison group, e.g. Bulgaria, Lithuania, Poland, Norway, and Germany. Only in Australia, Israel, New Zealand, Romania, and Spain do significantly more girls fail to reach the *Low International Benchmark*.

In England, the percentage of boys failing to reach the *Low International Benchmark* is significantly higher than in all comparison countries in Group 1, with the exception of the Republic of Ireland. In addition, the percentage of boys not reaching the *Low International Benchmark* is comparable to a number of countries such as Bulgaria, Lithuania, the Slovak Republic, France and Norway. Only Australia, New Zealand and Romania have significantly higher percentages of boys failing to reach the *Low International Benchmark*.

In England 22 per cent of girls and 14 per cent of boys reach the *Advanced International Benchmark* (at or above 625 points). In none of the comparison countries, with the exception of Finland, is the difference in percentages of girls and boys reaching the *Advanced International Benchmark* bigger than in England.

⁸ Group 1 does not include Finland and Northern Ireland.

In England the percentage of girls reaching the *Advanced International Benchmark* is among the highest of all comparison countries. Only three countries have comparable, i.e. not statistically different, percentages of girls reaching the *Advanced International Benchmark*: Finland, Northern Ireland and the United States. All other comparison countries have a significantly lower percentage of girls at the *Advanced International Benchmark*.

The percentage of boys, in England, at the *Advanced International Benchmark* is comparable to Canada, the United States and the Republic of Ireland (Group 1) and to Finland, Israel and Northern Ireland (wider comparison countries group). All other comparison countries have a significantly lower percentage of boys at the *Advanced International Benchmark*, among them: Croatia, Czech Republic, Denmark and the Netherlands within comparison Group 1.

5 References

- Martin, M.O., Mullis, I.V.S. and Foy, P. (2011). *Age Distribution and Reading Achievement Configurations Among Fourth-Grade Students in PIRLS 2006* (IERI Monograph Series: Issues and Methodologies in Large-Scale Assessments Volume 4). Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College [online]. Available: http://www.ierinstitute.org/fileadmin/Documents/IERI_Monograph/IERI_Monograph_Volume_04_Chapter_1.pdf [13 October, 2014].
- Mullis, I., Martin, M., Foy, P. and Drucker, K. (2012). *PIRLS 2011 International Results in Reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College [online]. Available: http://timss.bc.edu/pirls2011/downloads/P11_IR_FullBook.pdf [13 October, 2014].
- Mullis, I.V.S., Martin, M.O., Minnich, C.A., Drucker, K.T. and Ragan, M.A. (Eds) (2012). *PIRLS 2011 Encyclopedia: Education Policy and Curriculum in Reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College [online]. Available: <http://timssandpirls.bc.edu/pirls2011/encyclopedia-pirls.html> [13 October, 2014].
- OECD (2014). *PISA 2012. Results in Focus: What 15-year-olds Know and What They Can Do With What They Know*. Paris: OECD [online]. Available: <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf> [13 October, 2014]

Appendix: Data tables

Table A1 Overall achievement in PIRLS 2011 and percentages of pupils on international benchmarks by country

International benchmark	Overall achievement			Below 400		Low (from 400 to 475)		Intermediate (from 475 to 550)		High (from 550 to 625)		Advanced (at or above 625)						
	mean	S.E.	SD	n	per cent	S.E.	n	per cent	S.E.	n	per cent	n	per cent					
Australia	527	(2.2)	80	462	7	(0.7)	1,072	17	(0.8)	2,078	34	(1.0)	1,923	32	(0.9)	591	10	(0.7)
Austria	529	(2.0)	63	151	3	(0.3)	808	17	(0.8)	1,915	41	(1.1)	1,534	34	(1.3)	261	5	(0.5)
Belgium (French)	506	(2.9)	65	200	6	(1.1)	863	23	(1.2)	1,693	45	(1.3)	880	23	(1.3)	91	2	(0.5)
Bulgaria	532	(4.1)	82	313	7	(1.0)	788	16	(1.1)	1,632	32	(1.2)	1,865	34	(1.5)	664	11	(0.8)
Canada	548	(1.6)	69	675	2	(0.2)	3,284	12	(0.6)	8,351	35	(0.8)	8,287	38	(0.7)	2,609	13	(0.7)
Croatia	553	(1.9)	60	42	1	(0.2)	428	9	(0.6)	1,665	36	(1.0)	1,959	43	(1.1)	493	11	(0.7)
Czech Republic	545	(2.2)	61	70	2	(0.5)	451	11	(0.8)	1,646	37	(1.2)	1,962	42	(1.2)	427	8	(0.9)
Denmark	554	(1.7)	64	63	1	(0.2)	470	10	(0.7)	1,514	33	(0.9)	1,965	43	(1.2)	582	12	(0.8)
England	552	(2.6)	82	180	5	(0.5)	497	13	(1.0)	1,137	29	(1.1)	1,379	36	(1.0)	735	18	(1.1)
Finland	568	(1.9)	64	38	1	(0.2)	325	7	(0.6)	1,368	29	(1.0)	2,066	44	(1.1)	844	18	(0.9)
France	520	(2.6)	68	199	5	(0.8)	879	20	(1.1)	1,804	41	(0.8)	1,324	29	(1.4)	232	5	(0.5)
Germany	541	(2.2)	66	82	2	(0.3)	522	13	(0.8)	1,549	39	(1.2)	1,470	37	(1.2)	377	10	(0.8)
Hungary	539	(2.9)	78	222	5	(0.7)	665	14	(0.9)	1,701	33	(1.1)	1,915	35	(1.0)	702	12	(0.9)
Israel	541	(2.7)	86	283	7	(0.8)	589	14	(0.9)	1,252	30	(1.0)	1,433	34	(1.0)	629	15	(0.9)
Italy	541	(2.2)	66	119	2	(0.4)	544	13	(1.0)	1,600	39	(1.0)	1,522	36	(1.3)	404	10	(0.7)
Lithuania	528	(2.0)	66	122	3	(0.4)	703	17	(1.1)	1,898	41	(1.3)	1,630	33	(1.2)	309	6	(0.5)
Netherlands	546	(1.9)	54	17	0	(0.2)	361	9	(0.8)	1,667	42	(1.1)	1,682	42	(1.4)	268	7	(0.5)
New Zealand	531	(1.9)	88	475	8	(0.5)	941	17	(0.7)	1,726	30	(1.2)	1,724	31	(1.0)	778	14	(0.7)
Northern Ireland	558	(2.4)	76	103	3	(0.6)	347	10	(0.8)	1,022	29	(1.0)	1,410	39	(1.3)	705	19	(1.2)
Norway	507	(1.9)	61	157	5	(0.7)	718	24	(1.5)	1,477	46	(1.3)	767	23	(1.5)	71	2	(0.4)
Poland	526	(2.1)	73	239	5	(0.5)	838	18	(0.7)	1,855	38	(1.0)	1,661	32	(0.9)	412	7	(0.6)

International benchmark Country	Overall achievement			Below 400		Low (from 400 to 475)		Intermediate (from 475 to 550)		High (from 550 to 625)		Advanced (at or above 625)							
	mean	S.E.	SD	S.E.	n	per cent	S.E.	n	per cent	S.E.	n	per cent	S.E.						
Portugal	541	(2.6)	66	(1.4)	95	2	(0.5)	539	14	(1.1)	1,478	37	(1.5)	1,583	38	(1.4)	392	9	(1.1)
Republic of Ireland	552	(2.3)	75	(1.4)	158	3	(0.5)	546	12	(0.7)	1,441	32	(1.0)	1,640	38	(1.0)	739	16	(0.9)
Romania	502	(4.3)	91	(2.5)	477	14	(1.5)	824	21	(1.0)	1,570	33	(1.2)	1,382	25	(1.2)	412	7	(0.7)
Slovak Republic	535	(2.8)	69	(1.9)	233	4	(0.8)	790	14	(0.9)	2,065	38	(1.0)	2,085	37	(1.2)	457	8	(0.6)
Slovenia	530	(2.0)	70	(0.9)	204	5	(0.6)	754	16	(0.8)	1,718	38	(1.0)	1,519	34	(1.1)	318	8	(0.7)
Spain	513	(2.3)	68	(1.2)	417	6	(0.7)	1,709	21	(1.0)	3,606	42	(1.2)	2,472	27	(1.3)	377	4	(0.5)
Sweden	542	(2.1)	65	(1.0)	131	2	(0.3)	640	12	(0.9)	1,730	38	(1.4)	1,720	38	(1.4)	401	9	(0.8)
United States	556	(1.5)	73	(1.0)	322	2	(0.3)	1,433	11	(0.5)	3,898	30	(0.6)	4,852	38	(0.7)	2,220	17	(0.7)

Note: In blue coloured cells are countries of comparison Group 1 with similar average reading scores than England

Table A2 Reading achievement on the 5th and 95th percentile by country

Countries	Overall achievement				5th percentile		95th percentile		difference scores between percentiles 5 and 95
	mean	S.E.	SD	S.E.	M	S.E.	M	S.E.	
Australia	527	(2.2)	80	(1.3)	383	(4.5)	648	(3.1)	265
Austria	529	(2.0)	63	(1.0)	418	(3.5)	626	(3.7)	209
Belgium (French)	506	(2.9)	65	(1.6)	391	(7.9)	606	(3.5)	215
Bulgaria	532	(4.1)	82	(2.6)	382	(9.0)	652	(3.7)	270
Canada	548	(1.6)	69	(0.9)	429	(4.5)	658	(2.7)	230
Croatia	553	(1.9)	60	(0.9)	449	(6.3)	648	(3.7)	200
Czech Republic	545	(2.2)	61	(1.4)	434	(5.4)	639	(2.7)	205
Denmark	554	(1.7)	64	(0.9)	438	(3.8)	652	(3.7)	215
England	552	(2.6)	82	(1.4)	404	(8.7)	678	(4.7)	274
Finland	568	(1.9)	64	(1.0)	458	(3.4)	668	(2.4)	209
France	520	(2.6)	68	(1.3)	401	(5.5)	626	(3.9)	225
Germany	541	(2.2)	66	(1.3)	425	(7.3)	646	(4.6)	221
Hungary	539	(2.9)	78	(2.1)	397	(10.2)	656	(3.2)	259
Israel	541	(2.7)	86	(2.1)	383	(9.0)	670	(3.6)	287
Italy	541	(2.2)	66	(1.3)	427	(6.8)	645	(2.1)	218
Lithuania	528	(2.0)	66	(1.2)	412	(3.4)	630	(2.5)	218
Netherlands	546	(1.9)	54	(0.9)	454	(3.1)	631	(2.4)	178
New Zealand	531	(1.9)	88	(1.2)	373	(3.4)	666	(4.6)	293
Northern Ireland	558	(2.4)	76	(1.3)	422	(6.3)	673	(3.2)	251
Norway	507	(1.9)	61	(0.9)	398	(4.4)	601	(3.4)	203
Poland	526	(2.1)	73	(1.1)	397	(5.3)	637	(4.2)	240
Portugal	541	(2.6)	66	(1.4)	425	(7.5)	643	(4.2)	218
Republic of Ireland	552	(2.3)	75	(1.4)	417	(8.2)	665	(4.2)	248
Romania	502	(4.3)	91	(2.5)	336	(6.7)	634	(4.9)	298
Slovak Republic	535	(2.8)	69	(1.9)	408	(11.1)	638	(3.3)	230
Slovenia	530	(2.0)	70	(0.9)	405	(7.9)	637	(2.5)	232
Spain	513	(2.3)	68	(1.2)	393	(5.2)	618	(3.3)	225
Sweden	542	(2.1)	65	(1.0)	426	(3.5)	643	(3.3)	217
United States	556	(1.5)	73	(1.0)	428	(3.5)	671	(3.0)	243

Note: In blue coloured cells are countries of comparison Group 1 with similar average reading scores than England

Table A3 Number of books at home for the lowest 25 per cent of performers by country

Countries	Reading achievement		Number of books at home			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	2.8	(0.02)	1.1	(0.02)
Czech Republic	509	(2.2)	2.7	(0.06)	1.1	(0.03)
Germany	499	(3.0)	2.6	(0.06)	1.1	(0.03)
Hungary	493	(3.1)	2.3	(0.05)	1.2	(0.03)
Italy	500	(3.2)	2.4	(0.04)	1.2	(0.03)
Netherlands	510	(3.5)	2.7	(0.04)	1.1	(0.03)
Portugal	499	(5.2)	2.3	(0.06)	1.1	(0.04)
Republic of Ireland	506	(4.2)	2.5	(0.05)	1.1	(0.03)
Slovak Republic	495	(2.8)	2.3	(0.06)	1.1	(0.03)
Sweden	502	(3.2)	2.7	(0.04)	1.1	(0.03)
Croatia	514	(3.2)	2.2	(0.04)	1.0	(0.03)
Denmark	514	(2.0)	2.7	(0.04)	1.1	(0.02)
Finland	528	(2.5)	2.9	(0.05)	1.1	(0.02)
Northern Ireland	512	(2.1)	2.4	(0.05)	1.1	(0.03)
United States	510	(2.1)	2.5	(0.03)	1.2	(0.02)
Australia	477	(2.5)	2.9	(0.05)	1.2	(0.02)
Austria	487	(2.0)	2.4	(0.05)	1.1	(0.03)
Belgium (French)	466	(3.9)	2.5	(0.06)	1.2	(0.03)
Bulgaria	482	(4.8)	1.8	(0.06)	1.1	(0.04)
France	475	(3.9)	2.6	(0.05)	1.1	(0.02)
Israel	490	(3.4)	2.8	(0.06)	1.2	(0.03)
Lithuania	487	(3.3)	2.2	(0.04)	1.0	(0.03)
New Zealand	474	(3.0)	2.6	(0.05)	1.2	(0.02)
Norway	467	(2.9)	2.8	(0.08)	1.2	(0.03)
Poland	480	(3.1)	2.4	(0.04)	1.1	(0.03)
Romania	445	(8.8)	1.7	(0.06)	1.0	(0.05)
Slovenia	487	(2.7)	2.5	(0.05)	1.1	(0.03)
Spain	469	(3.4)	2.6	(0.05)	1.2	(0.02)
England	500	(4.0)	2.7	(0.05)	1.2	(0.03)

Note: Due to missing values on the analysis variable(s) an average of 2.1 per cent of cases were excluded per country, with a minimum of 0.7 per cent in England and a maximum of 10.4 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A4 Home possessions for the lowest 25 per cent of performers by country

Countries	Reading achievement		Home possessions			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	4.3	(0.04)	0.9	(0.03)
Czech Republic	509	(2.2)	4.2	(0.04)	1.0	(0.05)
Germany	499	(3.0)	4.3	(0.04)	0.9	(0.04)
Hungary	493	(3.1)	3.8	(0.09)	1.3	(0.07)
Italy	500	(3.2)	3.7	(0.04)	1.1	(0.03)
Netherlands	510	(3.5)	4.6	(0.03)	0.7	(0.04)
Portugal	499	(5.2)	4.3	(0.04)	0.9	(0.03)
Republic of Ireland	506	(4.2)	3.9	(0.04)	1.2	(0.04)
Slovak Republic	495	(2.8)	3.5	(0.08)	1.4	(0.04)
Sweden	502	(3.2)	4.6	(0.03)	0.8	(0.03)
Croatia	514	(3.2)	4.2	(0.04)	1.0	(0.03)
Denmark	514	(2.0)	4.7	(0.02)	0.6	(0.03)
Finland	528	(2.5)	4.5	(0.03)	0.8	(0.02)
Northern Ireland	512	(2.1)	4.1	(0.06)	1.0	(0.05)
United States	510	(2.1)	3.8	(0.03)	1.3	(0.02)
Australia	477	(2.5)	4.2	(0.04)	1.0	(0.03)
Austria	487	(2.0)	4.3	(0.03)	0.9	(0.03)
Belgium (French)	466	(3.9)	4.0	(0.04)	1.0	(0.03)
Bulgaria	482	(4.8)	3.0	(0.13)	1.8	(0.06)
France	475	(3.9)	3.9	(0.05)	1.1	(0.04)
Israel	490	(3.4)	3.2	(0.06)	1.0	(0.04)
Lithuania	487	(3.3)	3.7	(0.04)	1.1	(0.03)
New Zealand	474	(3.0)	3.8	(0.04)	1.2	(0.03)
Norway	467	(2.9)	4.4	(0.04)	0.8	(0.03)
Poland	480	(3.1)	3.6	(0.05)	1.2	(0.02)
Romania	445	(8.8)	2.6	(0.11)	1.6	(0.06)
Slovenia	487	(2.7)	4.2	(0.05)	1.0	(0.03)
Spain	469	(3.4)	4.2	(0.05)	1.0	(0.04)
England	500	(4.0)	4.1	(0.04)	1.0	(0.04)

Note: Due to missing values on the analysis variable(s) an average of 1.4 per cent of cases were excluded per country, with a minimum of 0.03 per cent in Croatia and a maximum of 9.4 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A5 Parental interest for pupil's school related issues for the lowest 25 per cent of performers by country

Countries	Reading achievement		Parental interest			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	3.3	(0.02)	0.8	(0.02)
Czech Republic	509	(2.2)	3.6	(0.02)	0.6	(0.03)
Germany	499	(3.0)	3.4	(0.04)	0.7	(0.06)
Hungary	493	(3.1)	3.5	(0.03)	0.7	(0.03)
Italy	500	(3.2)	3.4	(0.03)	0.7	(0.03)
Netherlands	510	(3.5)	3.3	(0.03)	0.8	(0.02)
Portugal	499	(5.2)	3.5	(0.03)	0.6	(0.03)
Republic of Ireland	506	(4.2)	3.4	(0.03)	0.7	(0.02)
Slovak Republic	495	(2.8)	3.5	(0.04)	0.7	(0.04)
Sweden	502	(3.2)	3.4	(0.03)	0.7	(0.03)
Croatia	514	(3.2)	3.5	(0.02)	0.6	(0.02)
Denmark	514	(2.0)	3.5	(0.02)	0.6	(0.02)
Finland	528	(2.5)	3.2	(0.03)	0.7	(0.02)
Northern Ireland	512	(2.1)	3.4	(0.03)	0.6	(0.03)
United States	510	(2.1)	3.2	(0.02)	0.9	(0.02)
Australia	477	(2.5)	3.2	(0.03)	0.8	(0.02)
Austria	487	(2.0)	3.6	(0.03)	0.6	(0.03)
Belgium (French)	466	(3.9)	3.5	(0.03)	0.7	(0.03)
Bulgaria	482	(4.8)	3.1	(0.07)	1.0	(0.04)
France	475	(3.9)	3.4	(0.02)	0.7	(0.02)
Israel	490	(3.4)	3.3	(0.03)	0.8	(0.03)
Lithuania	487	(3.3)	3.5	(0.03)	0.7	(0.04)
New Zealand	474	(3.0)	3.2	(0.03)	0.8	(0.02)
Norway	467	(2.9)	3.3	(0.04)	0.7	(0.03)
Poland	480	(3.1)	3.5	(0.02)	0.7	(0.02)
Romania	445	(8.8)	3.2	(0.08)	1.0	(0.06)
Slovenia	487	(2.7)	3.6	(0.02)	0.6	(0.02)
Spain	469	(3.4)	3.5	(0.02)	0.7	(0.02)
England	500	(4.0)	3.3	(0.03)	0.7	(0.02)

Note: Due to missing values on the analysis variable(s) an average of 1.6 per cent of cases were excluded per country, with a minimum of 0.3 per cent in England and a maximum of 9.5 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A6 Time spend reading outside of school per day for the lowest 25 per cent of performers by country

Countries	Reading achievement		Time spent reading outside of school			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	1.6	(0.03)	0.9	(0.03)
Czech Republic	509	(2.2)	1.8	(0.04)	0.9	(0.03)
Germany	499	(3.0)	1.9	(0.04)	1.0	(0.02)
Hungary	493	(3.1)	1.8	(0.04)	1.0	(0.03)
Italy	500	(3.2)	1.7	(0.04)	1.0	(0.02)
Netherlands	510	(3.5)	1.7	(0.03)	0.9	(0.02)
Portugal	499	(5.2)	1.6	(0.04)	0.9	(0.03)
Republic of Ireland	506	(4.2)	1.7	(0.04)	0.9	(0.03)
Slovak Republic	495	(2.8)	1.7	(0.04)	0.9	(0.03)
Sweden	502	(3.2)	1.4	(0.02)	0.7	(0.03)
Croatia	514	(3.2)	1.8	(0.03)	0.9	(0.02)
Denmark	514	(2.0)	1.5	(0.03)	0.7	(0.03)
Finland	528	(2.5)	1.6	(0.03)	0.8	(0.03)
Northern Ireland	512	(2.1)	1.6	(0.03)	0.9	(0.03)
United States	510	(2.1)	1.6	(0.02)	0.9	(0.02)
Australia	477	(2.5)	1.6	(0.04)	1.0	(0.03)
Austria	487	(2.0)	1.9	(0.03)	1.0	(0.02)
Belgium (French)	466	(3.9)	1.8	(0.04)	1.0	(0.03)
Bulgaria	482	(4.8)	1.8	(0.06)	1.0	(0.02)
France	475	(3.9)	1.7	(0.03)	0.9	(0.02)
Israel	490	(3.4)	2.1	(0.04)	1.1	(0.02)
Lithuania	487	(3.3)	1.8	(0.04)	1.0	(0.02)
New Zealand	474	(3.0)	1.6	(0.03)	0.9	(0.03)
Norway	467	(2.9)	1.4	(0.04)	0.7	(0.03)
Poland	480	(3.1)	1.8	(0.04)	1.0	(0.02)
Romania	445	(8.8)	1.8	(0.07)	1.0	(0.04)
Slovenia	487	(2.7)	1.8	(0.03)	0.9	(0.03)
Spain	469	(3.4)	1.8	(0.03)	0.9	(0.02)
England	500	(4.0)	1.5	(0.03)	0.8	(0.03)

Note: Due to missing values on the analysis variable(s) an average of 2.1 per cent of cases were excluded per country, with a minimum of 0.6 per cent in Croatia and a maximum of 10.8 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A7 Frequency with which pupils read outside of school for the lowest 25 per cent of performers by country

Countries	Reading achievement		Frequency of reading outside of school			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	3.0	(0.02)	0.8	(0.01)
Czech Republic	509	(2.2)	3.1	(0.03)	0.8	(0.02)
Germany	499	(3.0)	3.0	(0.04)	0.9	(0.02)
Hungary	493	(3.1)	3.0	(0.05)	0.9	(0.03)
Italy	500	(3.2)	3.0	(0.03)	0.8	(0.02)
Netherlands	510	(3.5)	2.7	(0.04)	0.9	(0.02)
Portugal	499	(5.2)	3.3	(0.03)	0.7	(0.03)
Republic of Ireland	506	(4.2)	3.0	(0.04)	0.9	(0.03)
Slovak Republic	495	(2.8)	2.9	(0.03)	0.8	(0.02)
Sweden	502	(3.2)	2.9	(0.04)	0.9	(0.02)
Croatia	514	(3.2)	2.9	(0.03)	0.8	(0.02)
Denmark	514	(2.0)	3.0	(0.03)	0.8	(0.02)
Finland	528	(2.5)	2.7	(0.03)	0.8	(0.02)
Northern Ireland	512	(2.1)	2.9	(0.05)	0.9	(0.02)
United States	510	(2.1)	2.9	(0.02)	0.9	(0.01)
Australia	477	(2.5)	2.9	(0.03)	0.9	(0.02)
Austria	487	(2.0)	3.2	(0.03)	0.8	(0.02)
Belgium (French)	466	(3.9)	3.1	(0.04)	0.9	(0.03)
Bulgaria	482	(4.8)	2.8	(0.06)	1.0	(0.03)
France	475	(3.9)	2.9	(0.03)	0.9	(0.02)
Israel	490	(3.4)	3.1	(0.03)	0.8	(0.02)
Lithuania	487	(3.3)	3.2	(0.03)	0.8	(0.02)
New Zealand	474	(3.0)	3.0	(0.03)	0.9	(0.02)
Norway	467	(2.9)	2.8	(0.05)	0.9	(0.03)
Poland	480	(3.1)	3.0	(0.03)	0.8	(0.02)
Romania	445	(8.8)	3.0	(0.07)	1.0	(0.05)
Slovenia	487	(2.7)	3.1	(0.04)	0.8	(0.03)
Spain	469	(3.4)	3.2	(0.03)	0.8	(0.02)
England	500	(4.0)	2.8	(0.04)	0.8	(0.02)

Note: Due to missing values on the analysis variable(s) an average of 1.6 per cent of cases were excluded per country, with a minimum of 0.3 per cent in England and a maximum of 9.6 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A8 Frequency with which pupils read stories, novels, and books that explain things outside of school for the lowest 25 per cent of performers by country

Countries	Reading achievement		Reading stories, novels, and books			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	2.8	(0.03)	0.9	(0.01)
Czech Republic	509	(2.2)	2.3	(0.04)	0.9	(0.02)
Germany	499	(3.0)	2.4	(0.04)	0.9	(0.02)
Hungary	493	(3.1)	2.7	(0.05)	0.9	(0.03)
Italy	500	(3.2)	2.4	(0.03)	0.9	(0.02)
Netherlands	510	(3.5)	2.7	(0.03)	1.0	(0.02)
Portugal	499	(5.2)	3.0	(0.03)	0.9	(0.02)
Republic of Ireland	506	(4.2)	2.8	(0.04)	0.9	(0.02)
Slovak Republic	495	(2.8)	2.3	(0.03)	0.9	(0.01)
Sweden	502	(3.2)	2.5	(0.04)	0.9	(0.02)
Croatia	514	(3.2)	2.6	(0.03)	0.9	(0.02)
Denmark	514	(2.0)	2.6	(0.03)	0.9	(0.02)
Finland	528	(2.5)	2.2	(0.03)	0.8	(0.02)
Northern Ireland	512	(2.1)	2.8	(0.05)	0.9	(0.03)
United States	510	(2.1)	2.6	(0.02)	1.0	(0.01)
Australia	477	(2.5)	2.7	(0.04)	0.9	(0.02)
Austria	487	(2.0)	2.5	(0.04)	0.9	(0.02)
Belgium (French)	466	(3.9)	2.7	(0.04)	0.9	(0.02)
Bulgaria	482	(4.8)	2.3	(0.06)	1.0	(0.02)
France	475	(3.9)	2.6	(0.04)	0.9	(0.02)
Israel	490	(3.4)	3.0	(0.04)	0.9	(0.03)
Lithuania	487	(3.3)	2.6	(0.04)	0.9	(0.02)
New Zealand	474	(3.0)	2.9	(0.03)	0.9	(0.02)
Norway	467	(2.9)	2.3	(0.05)	0.9	(0.02)
Poland	480	(3.1)	2.9	(0.04)	0.9	(0.02)
Romania	445	(8.8)	2.5	(0.08)	1.0	(0.03)
Slovenia	487	(2.7)	2.6	(0.03)	0.9	(0.02)
Spain	469	(3.4)	2.6	(0.03)	0.9	(0.02)
England	500	(4.0)	2.6	(0.04)	0.9	(0.02)

Note: Due to missing values on the analysis variable(s) an average of 1.8 per cent of cases were excluded per country, with a minimum of 0.5 per cent in Croatia and a maximum of 9.7 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A9 Frequency with which pupils read magazines and comics outside of school for the lowest 25 per cent of performers by country

Countries	Reading achievement		Reading outside of school			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	2.5	(0.03)	1.0	(0.01)
Czech Republic	509	(2.2)	2.8	(0.04)	1.0	(0.02)
Germany	499	(3.0)	2.4	(0.04)	1.0	(0.02)
Hungary	493	(3.1)	2.6	(0.05)	1.0	(0.02)
Italy	500	(3.2)	2.4	(0.04)	1.0	(0.02)
Netherlands	510	(3.5)	2.5	(0.04)	1.0	(0.02)
Portugal	499	(5.2)	2.6	(0.04)	0.9	(0.02)
Republic of Ireland	506	(4.2)	2.5	(0.04)	1.0	(0.02)
Slovak Republic	495	(2.8)	2.5	(0.04)	1.0	(0.02)
Sweden	502	(3.2)	2.3	(0.04)	0.9	(0.02)
Croatia	514	(3.2)	2.8	(0.04)	1.0	(0.02)
Denmark	514	(2.0)	2.3	(0.03)	0.9	(0.01)
Finland	528	(2.5)	2.5	(0.03)	0.8	(0.02)
Northern Ireland	512	(2.1)	2.6	(0.04)	1.0	(0.02)
United States	510	(2.1)	2.5	(0.02)	1.0	(0.01)
Australia	477	(2.5)	2.4	(0.04)	1.0	(0.02)
Austria	487	(2.0)	2.5	(0.04)	1.0	(0.02)
Belgium (French)	466	(3.9)	2.6	(0.04)	1.0	(0.02)
Bulgaria	482	(4.8)	2.3	(0.06)	1.1	(0.02)
France	475	(3.9)	2.4	(0.04)	0.9	(0.02)
Israel	490	(3.4)	2.5	(0.04)	1.0	(0.02)
Lithuania	487	(3.3)	2.6	(0.05)	1.0	(0.02)
New Zealand	474	(3.0)	2.5	(0.04)	1.0	(0.01)
Norway	467	(2.9)	2.7	(0.05)	1.1	(0.02)
Poland	480	(3.1)	2.4	(0.04)	1.0	(0.02)
Romania	445	(8.8)	2.4	(0.06)	1.0	(0.02)
Slovenia	487	(2.7)	2.7	(0.04)	0.9	(0.02)
Spain	469	(3.4)	2.4	(0.03)	1.0	(0.02)
England	500	(4.0)	2.6	(0.04)	1.0	(0.02)

Note: Due to missing values on the analysis variable(s) an average of 2.2 per cent of cases were excluded per country, with a minimum of 0.6 per cent in Croatia and a maximum of 10.2 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A10 Reading engagement at school for the lowest 25 per cent of performers by country

Countries	Reading achievement		Reading engagement at school			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	3.2	(0.02)	0.7	(0.02)
Czech Republic	509	(2.2)	3.1	(0.04)	0.8	(0.03)
Germany	499	(3.0)	3.1	(0.03)	0.8	(0.02)
Hungary	493	(3.1)	3.3	(0.03)	0.7	(0.02)
Italy	500	(3.2)	3.3	(0.02)	0.7	(0.03)
Netherlands	510	(3.5)	2.9	(0.04)	0.8	(0.02)
Portugal	499	(5.2)	3.6	(0.02)	0.5	(0.03)
Republic of Ireland	506	(4.2)	3.3	(0.03)	0.8	(0.03)
Slovak Republic	495	(2.8)	3.3	(0.03)	0.7	(0.03)
Sweden	502	(3.2)	3.2	(0.03)	0.7	(0.02)
Croatia	514	(3.2)	3.3	(0.03)	0.7	(0.02)
Denmark	514	(2.0)	3.1	(0.03)	0.7	(0.02)
Finland	528	(2.5)	2.9	(0.03)	0.8	(0.02)
Northern Ireland	512	(2.1)	3.3	(0.03)	0.7	(0.03)
United States	510	(2.1)	3.2	(0.02)	0.8	(0.02)
Australia	477	(2.5)	3.1	(0.03)	0.8	(0.02)
Austria	487	(2.0)	3.2	(0.03)	0.8	(0.02)
Belgium (French)	466	(3.9)	3.3	(0.04)	0.7	(0.03)
Bulgaria	482	(4.8)	3.6	(0.04)	0.7	(0.05)
France	475	(3.9)	3.3	(0.04)	0.7	(0.04)
Israel	490	(3.4)	3.3	(0.03)	0.7	(0.02)
Lithuania	487	(3.3)	3.3	(0.03)	0.7	(0.03)
New Zealand	474	(3.0)	3.3	(0.03)	0.8	(0.02)
Norway	467	(2.9)	3.2	(0.05)	0.8	(0.03)
Poland	480	(3.1)	3.3	(0.02)	0.7	(0.02)
Romania	445	(8.8)	3.5	(0.06)	0.8	(0.04)
Slovenia	487	(2.7)	3.3	(0.03)	0.7	(0.02)
Spain	469	(3.4)	3.4	(0.03)	0.7	(0.03)
England	500	(4.0)	3.3	(0.04)	0.8	(0.03)

Note: Due to missing values on the analysis variable(s) an average of 1.7 per cent of cases were excluded per country, with a minimum of 0.3 per cent in England and a maximum of 9.9 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A11 General reading interest for the lowest 25 per cent of performers by country

Countries	Reading achievement		General reading interest			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	3.1	(0.02)	0.9	(0.02)
Czech Republic	509	(2.2)	3.0	(0.04)	0.9	(0.02)
Germany	499	(3.0)	2.9	(0.03)	0.9	(0.02)
Hungary	493	(3.1)	2.8	(0.04)	0.9	(0.02)
Italy	500	(3.2)	3.0	(0.03)	0.8	(0.02)
Netherlands	510	(3.5)	2.7	(0.03)	0.9	(0.01)
Portugal	499	(5.2)	3.4	(0.03)	0.6	(0.03)
Republic of Ireland	506	(4.2)	3.0	(0.04)	0.9	(0.02)
Slovak Republic	495	(2.8)	2.9	(0.04)	0.9	(0.02)
Sweden	502	(3.2)	2.8	(0.03)	0.9	(0.02)
Croatia	514	(3.2)	2.7	(0.03)	0.9	(0.01)
Denmark	514	(2.0)	2.7	(0.03)	0.8	(0.02)
Finland	528	(2.5)	2.7	(0.04)	0.9	(0.02)
Northern Ireland	512	(2.1)	2.9	(0.04)	0.9	(0.02)
United States	510	(2.1)	2.8	(0.03)	1.0	(0.01)
Australia	477	(2.5)	2.9	(0.04)	0.9	(0.02)
Austria	487	(2.0)	2.9	(0.04)	0.9	(0.02)
Belgium (French)	466	(3.9)	3.0	(0.03)	0.8	(0.03)
Bulgaria	482	(4.8)	3.0	(0.05)	0.9	(0.03)
France	475	(3.9)	3.0	(0.03)	0.8	(0.02)
Israel	490	(3.4)	3.1	(0.04)	0.9	(0.02)
Lithuania	487	(3.3)	3.0	(0.04)	0.8	(0.03)
New Zealand	474	(3.0)	3.0	(0.03)	0.8	(0.02)
Norway	467	(2.9)	3.0	(0.06)	0.9	(0.04)
Poland	480	(3.1)	2.8	(0.03)	0.9	(0.02)
Romania	445	(8.8)	3.1	(0.05)	0.8	(0.03)
Slovenia	487	(2.7)	2.8	(0.04)	0.9	(0.02)
Spain	469	(3.4)	3.1	(0.03)	0.8	(0.02)
England	500	(4.0)	2.9	(0.05)	0.9	(0.02)

Note: Due to missing values on the analysis variable(s) an average of 1.8 per cent of cases were excluded per country, with a minimum of 0.5 per cent in England and a maximum of 10 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A12 Reading self-concept for the lowest 25 per cent of performers by country

Countries	Reading achievement		Reading self-concept			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	3.2	(0.01)	0.7	(0.01)
Czech Republic	509	(2.2)	2.9	(0.03)	0.8	(0.03)
Germany	499	(3.0)	3.0	(0.03)	0.8	(0.02)
Hungary	493	(3.1)	3.0	(0.04)	0.9	(0.03)
Italy	500	(3.2)	3.1	(0.02)	0.7	(0.02)
Netherlands	510	(3.5)	3.0	(0.02)	0.7	(0.01)
Portugal	499	(5.2)	3.0	(0.02)	0.7	(0.02)
Republic of Ireland	506	(4.2)	3.2	(0.03)	0.7	(0.02)
Slovak Republic	495	(2.8)	2.9	(0.03)	0.8	(0.02)
Sweden	502	(3.2)	3.3	(0.02)	0.6	(0.02)
Croatia	514	(3.2)	3.2	(0.03)	0.8	(0.02)
Denmark	514	(2.0)	3.2	(0.02)	0.6	(0.01)
Finland	528	(2.5)	3.2	(0.03)	0.6	(0.02)
Northern Ireland	512	(2.1)	3.2	(0.03)	0.7	(0.02)
United States	510	(2.1)	3.1	(0.02)	0.8	(0.01)
Australia	477	(2.5)	3.1	(0.02)	0.7	(0.02)
Austria	487	(2.0)	3.2	(0.03)	0.8	(0.02)
Belgium (French)	466	(3.9)	3.0	(0.03)	0.7	(0.02)
Bulgaria	482	(4.8)	3.1	(0.05)	0.9	(0.03)
France	475	(3.9)	2.9	(0.03)	0.7	(0.02)
Israel	490	(3.4)	3.3	(0.03)	0.7	(0.03)
Lithuania	487	(3.3)	3.0	(0.03)	0.8	(0.03)
New Zealand	474	(3.0)	3.1	(0.02)	0.8	(0.02)
Norway	467	(2.9)	3.3	(0.03)	0.7	(0.03)
Poland	480	(3.1)	2.9	(0.03)	0.8	(0.02)
Romania	445	(8.8)	3.0	(0.06)	0.9	(0.04)
Slovenia	487	(2.7)	3.0	(0.03)	0.8	(0.02)
Spain	469	(3.4)	3.1	(0.03)	0.7	(0.02)
England	500	(4.0)	3.1	(0.04)	0.7	(0.02)

Note: Due to missing values on the analysis variable(s) an average of 1.9 per cent of cases were excluded per country, with a minimum of 0.5 per cent in Croatia and a maximum of 10.3 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A13 Reading motivation for the lowest 25 per cent of performers by country

Countries	Reading achievement		Reading motivation			
	M	S. E.	M	S.E.	SD	S.E.
Canada	504	(1.7)	3.5	(0.01)	0.6	(0.02)
Czech Republic	509	(2.2)	3.4	(0.03)	0.6	(0.03)
Germany	499	(3.0)	3.4	(0.02)	0.6	(0.02)
Hungary	493	(3.1)	3.3	(0.03)	0.7	(0.02)
Italy	500	(3.2)	3.4	(0.02)	0.6	(0.03)
Netherlands	510	(3.5)	3.4	(0.03)	0.7	(0.03)
Portugal	499	(5.2)	3.6	(0.02)	0.4	(0.02)
Republic of Ireland	506	(4.2)	3.5	(0.02)	0.7	(0.03)
Slovak Republic	495	(2.8)	3.4	(0.03)	0.6	(0.04)
Sweden	502	(3.2)	3.5	(0.02)	0.5	(0.02)
Croatia	514	(3.2)	3.6	(0.02)	0.5	(0.03)
Denmark	514	(2.0)	3.6	(0.02)	0.4	(0.02)
Finland	528	(2.5)	3.3	(0.02)	0.6	(0.03)
Northern Ireland	512	(2.1)	3.4	(0.03)	0.6	(0.03)
United States	510	(2.1)	3.4	(0.02)	0.8	(0.02)
Australia	477	(2.5)	3.4	(0.03)	0.7	(0.03)
Austria	487	(2.0)	3.5	(0.02)	0.7	(0.03)
Belgium (French)	466	(3.9)	3.5	(0.03)	0.6	(0.03)
Bulgaria	482	(4.8)	3.4	(0.04)	0.8	(0.05)
France	475	(3.9)	3.5	(0.03)	0.6	(0.03)
Israel	490	(3.4)	3.5	(0.02)	0.7	(0.03)
Lithuania	487	(3.3)	3.5	(0.02)	0.6	(0.04)
New Zealand	474	(3.0)	3.4	(0.02)	0.7	(0.03)
Norway	467	(2.9)	3.6	(0.02)	0.5	(0.03)
Poland	480	(3.1)	3.4	(0.02)	0.7	(0.03)
Romania	445	(8.8)	3.4	(0.07)	0.8	(0.06)
Slovenia	487	(2.7)	3.4	(0.02)	0.6	(0.02)
Spain	469	(3.4)	3.6	(0.02)	0.6	(0.03)
England	500	(4.0)	3.4	(0.03)	0.7	(0.03)

Note: Due to missing values on the analysis variable(s) an average of 2.0 per cent of cases were excluded per country, with a minimum of 0.4 per cent in England and a maximum of 10.6 per cent in Germany.

Note: Blue coloured cells: Group 2 (countries with similar average reading scores of the lowest quartile of performers to England); pink coloured cells: Group 3 (countries with significantly higher average reading scores of the lowest quartile of performers); green coloured cells: Group 4 (countries with significantly lower average reading scores of the lowest quartile of performers)

Table A14 Percentage of students at each international benchmark by country and gender

International benchmark		Below 400			Low (from 400 to 475)			Intermediate (from 475 to 550)			High (from 550 to 625)			Advanced (at or above 625)			
Country	Gender	N	n	%	S.E.	n	%	S.E.	n	%	S.E.	n	%	S.E.	n	%	S.E.
Australia	female	2,999	164	5	(0.6)	471	16	(1.0)	1,021	34	(1.6)	996	33	(1.1)	347	12	(1.2)
	male	3,030	287	9	(1.1)	579	19	(1.2)	1,025	34	(1.1)	898	31	(1.3)	241	8	(0.8)
Austria	female	2,273	58	2	(0.3)	363	15	(1.0)	927	41	(1.3)	787	36	(1.5)	137	6	(0.7)
	male	2,394	93	3	(0.6)	444	18	(1.2)	986	41	(1.7)	747	32	(1.6)	124	5	(0.7)
Belgium	female	1,805	82	6	(1.3)	396	22	(1.4)	857	47	(1.8)	426	24	(1.7)	44	2	(0.5)
	male	1,907	118	7	(1.1)	463	25	(1.5)	827	43	(1.9)	452	23	(1.7)	47	2	(0.6)
Bulgaria	female	2,581	122	5	(1.1)	357	15	(1.3)	755	30	(1.3)	959	36	(1.8)	387	14	(1.0)
	male	2,667	184	8	(1.3)	427	17	(1.3)	874	34	(1.5)	906	33	(1.9)	277	9	(0.9)
Canada	female	11,399	258	2	(0.3)	1,434	10	(0.7)	3,958	34	(1.3)	4,262	39	(1.3)	1,488	15	(0.9)
	male	11,530	410	3	(0.3)	1,796	14	(0.8)	4,273	36	(1.0)	3,938	37	(1.1)	1,114	11	(1.0)
Croatia	female	2,286	14	1	(0.2)	159	7	(0.7)	796	35	(1.3)	1,034	45	(1.4)	283	13	(1.1)
	male	2,292	28	1	(0.4)	268	12	(1.0)	865	37	(1.2)	922	41	(1.5)	209	9	(0.8)
Czech Republic	female	2,227	28	1	(0.5)	203	10	(1.1)	778	36	(1.7)	983	43	(1.8)	236	9	(1.1)
	male	2,271	42	2	(0.7)	242	12	(1.1)	846	38	(1.5)	954	40	(1.5)	188	8	(1.0)
Denmark	female	2,294	27	1	(0.3)	190	8	(0.8)	703	31	(1.2)	1,034	45	(1.4)	341	14	(0.9)
	male	2,279	35	2	(0.4)	275	12	(0.9)	801	35	(1.0)	926	41	(1.5)	241	11	(1.1)
England	female	1,943	54	3	(0.6)	206	11	(1.2)	523	27	(1.2)	724	37	(1.7)	437	22	(1.7)
	male	1,975	124	6	(0.7)	289	14	(1.4)	610	31	(1.6)	654	34	(1.4)	298	14	(1.1)
Finland	female	2,253	11	1	(0.2)	113	5	(0.7)	561	26	(1.5)	1,044	45	(1.7)	524	23	(1.3)
	male	2,359	27	1	(0.3)	211	9	(1.0)	799	33	(1.5)	1,007	43	(1.8)	315	14	(1.1)
France	female	2,178	96	5	(1.0)	384	18	(1.4)	906	41	(1.4)	671	30	(1.7)	120	5	(0.8)
	male	2,241	100	5	(0.7)	487	22	(1.3)	892	40	(1.2)	650	28	(1.7)	112	5	(0.6)
Germany	female	1,825	30	2	(0.4)	211	11	(1.0)	669	37	(1.6)	715	39	(1.5)	201	11	(1.0)
	male	1,799	41	3	(0.6)	232	13	(1.1)	707	39	(1.3)	649	36	(1.7)	170	10	(1.3)
Hungary	female	2,547	79	4	(0.8)	278	12	(1.0)	815	33	(1.4)	990	38	(1.3)	385	14	(1.2)

Country	Gender	N	Below 400			Low (from 400 to 475)			Intermediate (from 475 to 550)			High (from 550 to 625)			Advanced (at or above 625)		
			n	%	S.E.	n	%	S.E.	n	%	S.E.	n	%	S.E.	n	%	S.E.
Israel	male	2,592	137	6	(1.0)	374	15	(1.2)	861	34	(1.4)	908	33	(1.4)	312	11	(0.8)
	female	2,116	113	6	(0.9)	299	13	(1.2)	652	31	(1.7)	728	34	(1.5)	325	15	(1.1)
Italy	male	2,063	170	8	(1.0)	289	14	(1.2)	598	29	(1.5)	704	34	(1.7)	303	15	(1.1)
	female	2,098	50	2	(0.5)	250	12	(1.1)	799	39	(1.5)	789	37	(1.5)	209	10	(0.9)
Lithuania	male	2,055	65	3	(0.5)	282	13	(1.2)	787	39	(1.5)	726	36	(1.9)	195	10	(0.9)
	female	2,245	42	3	(0.6)	258	13	(1.2)	885	40	(1.5)	877	37	(1.8)	182	7	(0.9)
Netherlands	male	2,367	78	4	(0.6)	430	20	(1.5)	991	42	(1.7)	741	29	(1.2)	127	5	(0.6)
	female	2,028	6	0	(0.2)	159	8	(0.9)	834	41	(1.4)	870	42	(1.6)	159	8	(0.8)
New Zealand	male	1,954	10	1	(0.3)	198	11	(0.9)	827	42	(1.5)	811	41	(1.8)	109	5	(0.6)
	female	2,785	173	6	(0.6)	409	15	(1.0)	830	30	(1.4)	914	33	(1.2)	458	16	(1.0)
Northern Ireland	male	2,838	298	10	(0.9)	527	19	(1.1)	888	31	(1.5)	807	29	(1.2)	319	11	(0.9)
	female	1,736	40	3	(0.6)	132	8	(1.0)	455	27	(1.4)	706	41	(1.8)	402	22	(1.5)
Norway	male	1,795	62	4	(1.0)	205	12	(1.3)	544	30	(1.5)	685	38	(1.5)	299	16	(1.4)
	female	1,586	58	4	(0.7)	313	21	(2.2)	749	47	(2.4)	424	26	(1.9)	43	2	(0.4)
Poland	male	1,545	94	7	(1.1)	389	27	(1.8)	701	45	(1.6)	333	20	(1.9)	28	2	(0.4)
	female	2,414	85	4	(0.6)	342	16	(1.1)	910	38	(1.6)	840	34	(1.3)	237	9	(0.9)
Portugal	male	2,571	152	7	(0.8)	492	19	(1.0)	938	38	(1.5)	815	30	(1.3)	174	6	(0.6)
	female	1,961	27	1	(0.4)	221	11	(1.3)	697	36	(1.9)	801	41	(1.6)	215	11	(1.5)
Republic of Ireland	male	2,089	66	3	(0.8)	314	16	(1.2)	766	37	(1.8)	768	35	(1.9)	174	8	(1.2)
	female	2,170	60	2	(0.9)	213	9	(1.0)	655	30	(1.5)	842	40	(1.6)	400	18	(1.4)
Romania	male	2,281	92	4	(1.1)	319	14	(1.1)	761	33	(1.4)	779	35	(1.4)	330	14	(1.0)
	female	2,246	184	12	(1.7)	354	19	(1.4)	759	34	(1.7)	719	27	(1.7)	230	8	(0.9)
Slovak Republic	male	2,392	283	16	(1.6)	463	22	(1.4)	803	33	(1.6)	660	24	(1.6)	182	6	(0.9)
	female	2,755	101	4	(0.9)	325	11	(1.1)	995	37	(1.2)	1,081	39	(1.4)	254	9	(1.0)
Slovenia	male	2,857	131	5	(0.9)	459	16	(1.2)	1,064	38	(1.5)	1,000	35	(1.7)	204	7	(0.7)
	female	2,145	72	3	(0.5)	300	14	(1.3)	816	38	(1.8)	773	36	(1.5)	185	9	(1.1)
	male	2,321	128	6	(1.0)	447	18	(1.1)	881	38	(1.4)	732	32	(1.5)	133	6	(0.7)

International benchmark		N		Below 400			Low (from 400 to 475)			Intermediate (from 475 to 550)			High (from 550 to 625)			Advanced (at or above 625)		
Country	Gender	n	%	n	%	S.E.	n	%	S.E.	n	%	S.E.	n	%	S.E.	n	%	S.E.
Spain	female	4,228	5	169	21	(1.3)	811	42	(1.7)	1,776	28	(1.3)	192	4	(0.7)			
	male	4,292	7	242	22	(1.3)	881	42	(1.4)	1,805	26	(1.6)	184	4	(0.6)			
Sweden	female	2,193	2	51	11	(1.1)	261	35	(1.5)	758	41	(1.8)	240	11	(1.2)			
	male	2,351	3	79	14	(1.5)	370	41	(1.7)	941	35	(1.7)	157	7	(0.8)			
United States	female	6,405	2	126	10	(0.5)	630	30	(0.8)	1,938	39	(1.0)	1,226	19	(0.9)			
	male	6,296	3	195	13	(0.7)	795	31	(1.0)	1,950	38	(0.9)	994	16	(0.7)			

Note: In blue coloured cells are countries of comparison Group 1 with similar average reading scores than England

NFER provides evidence for excellence through its independence and insights, the breadth of its work, its connections, and a focus on outcomes.

- independent
- insights
- breadth
- connections
- outcomes

NFER ref. STCH

ISBN. 978-1-910008-34-8

© 2014 National Foundation for Educational Research

**National Foundation for
Educational Research**
The Mere, Upton Park
Slough, Berks SL1 2DQ

T: 01753 574123
F: 01753 691632
E: enquiries@nfer.ac.uk
www.nfer.ac.uk