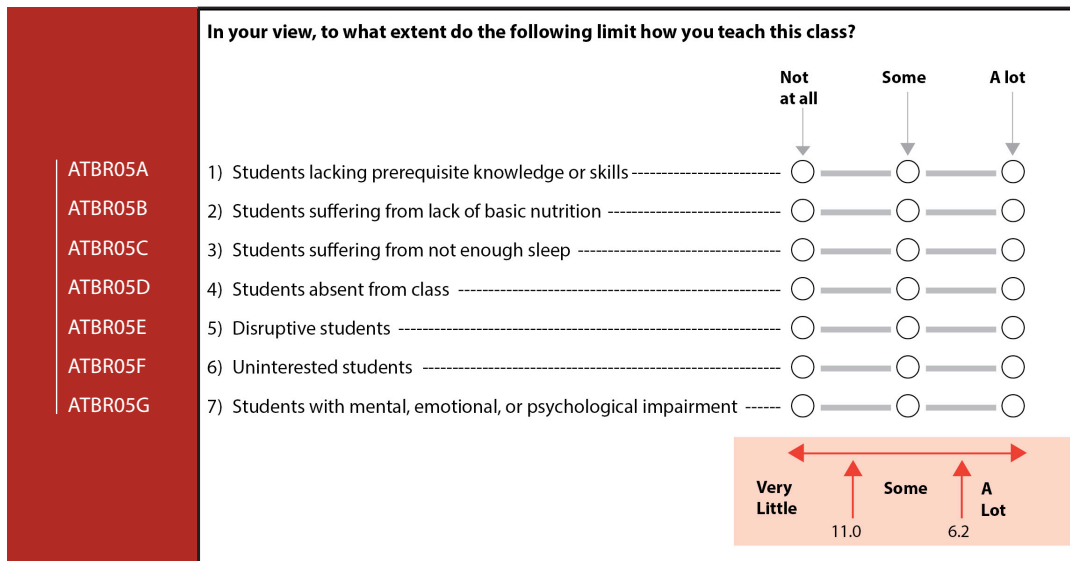


Appendix 14A: PIRLS 2016 Context Questionnaire Scales

Classroom Instruction Limited by Student Attributes Scale

The *Classroom Instruction Limited by Student Attributes (SLI)* scale was created based on teachers' responses concerning seven attributes of students described below.

Items in the PIRLS 2016 *Classroom Instruction Limited by Student Attributes* Scale



Item Parameters for the PIRLS 2016 Classroom Instruction Limited by Student Attributes Scale

Item	delta	tau_1	tau_2	Infit
ATBR05A	0.86545	-1.95409	1.95409	1.01
ATBR05B	-1.21694	-1.05765	1.05765	1.04
ATBR05C	-0.29564	-1.60966	1.60966	0.97
ATBR05D	-0.06615	-1.48492	1.48492	1.04
ATBR05E	0.34789	-1.40914	1.40914	0.99
ATBR05F	0.48997	-1.87068	1.87068	0.91
ATBR05G	-0.12458	-1.47958	1.47958	1.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Scale Transformation Constants for the PIRLS 2016 Classroom Instruction Limited by Student Attributes Scale

Scale Transformation Constants	
A = 8.565173	Transformed Scale Score = 8.565173 + 1.261182 • Logit Scale Score
B = 1.261182	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Classroom Instruction Limited by Student Attributes Scale

Raw Score	Transformed Scale Score	Cutpoint
0	3.09130	
1	4.66178	
2	5.50732	
3	6.15928	6.2
4	6.73472	
5	7.28482	
6	7.84240	
7	8.42725	
8	9.04720	
9	9.68742	
10	10.33571	
11	11.00861	11.0
12	11.75725	
13	12.70534	
14	14.37342	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Classroom Instruction Limited by Student Attributes Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item						
			ATBR05A	ATBR05B	ATBR05C	ATBR05D	ATBR05E	ATBR05F	ATBR05G
Australia	0.83	49	0.68	0.66	0.76	0.65	0.71	0.72	0.72
Austria	0.77	42	0.69	0.56	0.74	0.58	0.61	0.71	0.64
Azerbaijan	0.68	35	0.66	0.44	0.51	0.67	0.49	0.72	0.58
Bahrain	0.77	43	0.64	0.60	0.62	0.45	0.73	0.84	0.67
Belgium (Flemish)	0.69	35	0.63	0.47	0.62	0.54	0.64	0.70	0.53
Belgium (French)	0.72	37	0.61	0.55	0.71	0.60	0.52	0.64	0.64
Bulgaria	0.77	42	0.69	0.46	0.54	0.70	0.65	0.78	0.68
Canada	0.75	40	0.64	0.69	0.72	0.54	0.59	0.55	0.69
Chile	0.75	41	0.58	0.68	0.62	0.68	0.69	0.74	0.40
Chinese Taipei	0.63	32	0.47	0.44	0.62	0.59	0.59	0.61	0.60
Czech Republic	0.65	32	0.64	0.10	0.42	0.53	0.67	0.69	0.66
Denmark	0.76	41	0.61	0.50	0.69	0.49	0.78	0.79	0.57
Egypt	0.66	33	0.57	0.59	0.62	0.46	0.74	0.61	0.39
England	0.76	41	0.67	0.55	0.71	0.71	0.64	0.62	0.59
Finland	0.69	36	0.53	0.49	0.71	0.44	0.65	0.71	0.58
France	0.77	42	0.60	0.58	0.67	0.69	0.70	0.63	0.64
Georgia	0.80	46	0.57	0.65	0.74	0.73	0.68	0.70	0.66
Germany	0.77	43	0.67	0.61	0.67	0.67	0.66	0.62	0.67
Hong Kong SAR	0.64	32	0.63	0.39	0.45	0.58	0.55	0.70	0.60
Hungary	0.75	40	0.66	0.68	0.71	0.50	0.53	0.65	0.69
Iran, Islamic Rep. of	0.76	41	0.50	0.54	0.71	0.69	0.69	0.58	0.73
Ireland	0.77	44	0.71	0.71	0.73	0.65	0.58	0.71	0.49
Israel	0.88	57	0.68	0.71	0.77	0.84	0.77	0.80	0.71
Italy	0.61	30	0.61	0.28	0.47	0.52	0.67	0.66	0.51
Kazakhstan	0.83	50	0.54	0.62	0.69	0.72	0.79	0.79	0.77
Kuwait	0.66	34	0.63	0.54	0.46	0.61	0.66	0.71	0.36
Latvia	0.81	47	0.59	0.71	0.69	0.74	0.72	0.68	0.66
Lithuania	0.79	45	0.69	0.48	0.76	0.60	0.70	0.68	0.75
Macao SAR	0.72	38	0.72	0.28	0.55	0.63	0.70	0.60	0.71
Malta	0.85	53	0.59	0.73	0.79	0.75	0.76	0.76	0.68
Morocco	0.70	36	0.49	0.63	0.62	0.59	0.67	0.74	0.43
Netherlands	0.80	48	0.59	0.70	0.76	0.67	0.71	0.69	0.73
New Zealand	0.76	41	0.53	0.73	0.71	0.68	0.59	0.64	0.59
Northern Ireland	0.80	45	0.68	0.61	0.76	0.61	0.57	0.73	0.72
Norway (5)	0.74	40	0.61	0.57	0.66	0.58	0.66	0.67	0.66
Oman	0.80	46	0.55	0.66	0.70	0.76	0.76	0.71	0.56
Poland	0.64	33	0.61	0.57	0.55	0.63	0.53	0.71	0.39
Portugal	0.77	43	0.52	0.64	0.67	0.73	0.75	0.69	0.57
Qatar	0.71	37	0.50	0.51	0.68	0.46	0.72	0.74	0.58
Russian Federation	0.86	54	0.54	0.67	0.76	0.80	0.77	0.79	0.77
Saudi Arabia	0.68	35	0.52	0.60	0.52	0.42	0.68	0.72	0.59
Singapore	0.82	48	0.65	0.68	0.71	0.76	0.66	0.66	0.73
Slovak Republic	0.78	44	0.76	0.55	0.61	0.72	0.68	0.74	0.57
Slovenia	0.78	44	0.62	0.60	0.71	0.41	0.78	0.76	0.69
South Africa	0.72	38	0.35	0.50	0.60	0.59	0.73	0.72	0.72
Spain	0.81	46	0.68	0.62	0.77	0.69	0.69	0.69	0.64
Sweden	0.68	35	0.54	0.58	0.57	0.54	0.63	0.71	0.52
Trinidad and Tobago	0.80	44	0.66	0.62	0.67	0.72	0.64	0.71	0.63
United Arab Emirates	0.80	46	0.58	0.71	0.68	0.63	0.70	0.75	0.70
United States	0.80	45	0.66	0.63	0.71	0.62	0.70	0.70	0.66
Benchmarking Participants									
Buenos Aires, Argentina	0.86	54	0.64	0.81	0.81	0.76	0.69	0.75	0.63
Ontario, Canada	0.75	41	0.74	0.70	0.76	0.56	0.40	0.58	0.69
Quebec, Canada	0.75	41	0.53	0.69	0.74	0.52	0.72	0.46	0.73
Denmark (3)	0.77	43	0.66	0.63	0.73	0.63	0.67	0.68	0.60
Norway (4)	0.72	38	0.52	0.67	0.68	0.49	0.64	0.67	0.61
Moscow City, Russian Fed.	0.79	45	0.55	0.51	0.64	0.68	0.79	0.72	0.76
Eng/Afr/Zulu - RSA (5)	0.64	34	0.59	0.43	0.47	0.21	0.76	0.81	0.59
Andalusia, Spain	0.77	44	0.70	0.66	0.72	0.65	0.60	0.71	0.61
Madrid, Spain	0.73	39	0.72	0.54	0.75	0.63	0.59	0.53	0.60
Abu Dhabi, UAE	0.76	41	0.57	0.72	0.56	0.59	0.71	0.76	0.57
Dubai, UAE	0.82	49	0.66	0.68	0.76	0.69	0.63	0.73	0.72

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Classroom Instruction Limited by Student Attributes Scale and PIRLS 2016 Reading Achievement

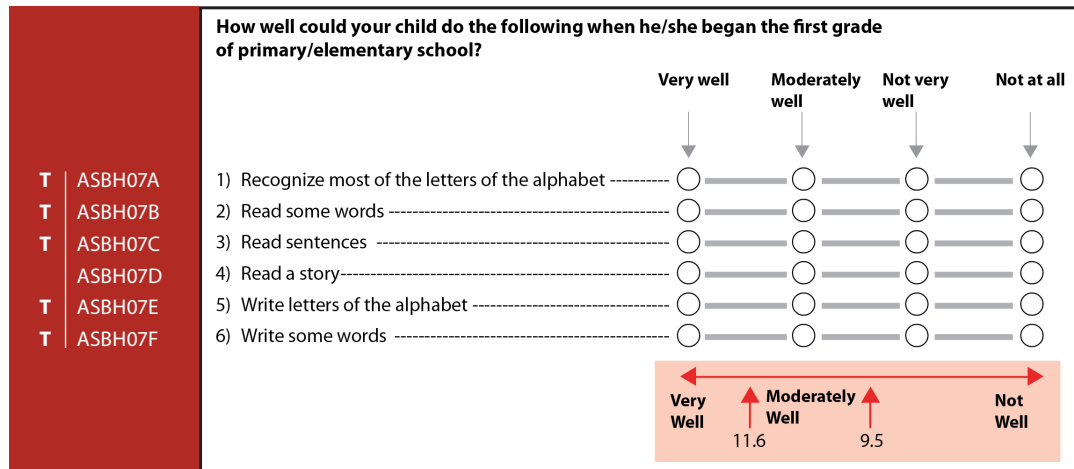
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.24	0.06	0.05
Austria	0.14	0.02	0.02
Azerbaijan	0.05	0.00	0.00
Bahrain	0.19	0.03	0.02
Belgium (Flemish)	0.21	0.04	0.03
Belgium (French)	0.24	0.06	0.03
Bulgaria	0.28	0.08	0.05
Canada	0.18	0.03	0.02
Chile	0.24	0.06	0.05
Chinese Taipei	0.03	0.00	0.00
Czech Republic	0.12	0.02	0.01
Denmark	0.10	0.01	0.01
Egypt	0.13	0.02	0.02
England	0.14	0.02	0.02
Finland	0.13	0.02	0.01
France	0.15	0.02	0.02
Georgia	0.01	0.00	0.01
Germany	0.27	0.07	0.05
Hong Kong SAR	0.15	0.02	0.02
Hungary	0.24	0.06	0.04
Iran, Islamic Rep. of	0.06	0.00	0.01
Ireland	0.21	0.05	0.02
Israel	0.27	0.07	0.07
Italy	0.03	0.00	0.00
Kazakhstan	-0.10	0.01	0.01
Kuwait	0.08	0.01	0.01
Latvia	0.01	0.00	0.01
Lithuania	0.13	0.02	0.01
Macao SAR	0.10	0.01	0.01
Malta	0.11	0.01	0.02
Morocco	0.21	0.04	0.05
Netherlands	0.18	0.03	0.04
New Zealand	0.23	0.06	0.04
Northern Ireland	0.19	0.03	0.01
Norway (5)	0.16	0.02	0.02
Oman	0.10	0.01	0.01
Poland	0.13	0.02	0.01
Portugal	0.10	0.01	0.01
Qatar	0.21	0.04	0.04
Russian Federation	0.16	0.03	0.02
Saudi Arabia	0.20	0.04	0.04
Singapore	0.37	0.13	0.11
Slovak Republic	0.26	0.07	0.09
Slovenia	0.04	0.00	0.00
South Africa	0.04	0.00	0.01
Spain	0.12	0.02	0.01
Sweden	0.11	0.01	0.01
Trinidad and Tobago	0.21	0.04	0.06
United Arab Emirates	0.35	0.12	0.09
United States	0.24	0.06	0.05
International Median	0.15	0.02	0.02
Benchmarking Participants			
Buenos Aires, Argentina	0.17	0.03	0.03
Ontario, Canada	0.20	0.04	0.03
Quebec, Canada	0.18	0.03	0.04
Denmark (3)	0.11	0.01	0.01
Norway (4)	0.07	0.00	0.00
Moscow City, Russian Fed.	0.09	0.01	0.01
Eng/Afr/Zulu - RSA (5)	0.08	0.01	0.00
Andalusia, Spain	0.19	0.04	0.03
Madrid, Spain	0.16	0.03	0.02
Abu Dhabi, UAE	0.25	0.06	0.07
Dubai, UAE	0.30	0.09	0.07

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Could Do Early Literacy Tasks When Beginning Primary School Scale

The *Could Do Early Literacy Tasks When Beginning Primary School* (ELT) scale was created based on parents' responses to how well their children could do the tasks described below when they began primary school.

Items in the PIRLS 2016 *Could Do Early Literacy Tasks When Beginning Primary School* Scale



T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

Item Parameters for the PIRLS 2016 *Could Do Early Literacy Tasks When Beginning Primary School* Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBH07A	-1.92907	-2.74251	-0.22290	2.96541	1.23
ASBH07B	-0.25362	-2.61266	-0.23840	2.85106	0.86
ASBH07C	1.33018	-2.27105	-0.26638	2.53743	0.87
ASBH07D	2.23418	-2.17667	-0.33003	2.50670	1.13
ASBH07E	-1.28432	-3.05497	-0.09985	3.15482	1.17
ASBH07F	-0.09735	-2.74264	-0.24088	2.98352	1.04

Scale Transformation Constants for the PIRLS 2016 *Could Do Early Literacy Tasks When Beginning Primary School* Scale

Scale Transformation Constants	
A = 9.406273	Transformed Scale Score = 9.406273 + 0.729914 • Logit Scale Score
B = 0.729914	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 *Could Do Early Literacy Tasks When Beginning Primary School* Scale

Raw Score	Transformed Scale Score	Cutpoint
0	4.87072	
1	5.91978	
2	6.57986	
3	7.11898	
4	7.58223	
5	8.00017	
6	8.38767	
7	8.75301	
8	9.10285	
9	9.44462	9.5
10	9.78407	
11	10.12525	
12	10.47276	
13	10.83403	
14	11.21961	
15	11.64946	11.6
16	12.15650	
17	12.80602	
18	13.88211	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach’s Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Could Do Early Literacy Tasks When Beginning Primary School Scale

Country	Cronbach’s Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item					
			ASBH07A	ASBH07B	ASBH07C	ASBH07D	ASBH07E	ASBH07F
Australia	0.92	71	0.75	0.89	0.89	0.84	0.82	0.88
Austria	0.90	67	0.81	0.87	0.85	0.77	0.79	0.82
Azerbaijan	0.92	70	0.79	0.89	0.87	0.77	0.84	0.86
Bahrain	0.90	69	0.76	0.89	0.88	0.79	0.78	0.86
Belgium (Flemish)	0.92	71	0.78	0.89	0.88	0.83	0.82	0.85
Belgium (French)	0.89	65	0.72	0.85	0.85	0.78	0.79	0.82
Bulgaria	0.94	75	0.82	0.92	0.89	0.84	0.85	0.89
Canada	0.91	70	0.74	0.88	0.89	0.84	0.79	0.86
Chile	0.93	73	0.79	0.88	0.90	0.85	0.85	0.86
Chinese Taipei	0.91	70	0.81	0.88	0.88	0.82	0.83	0.80
Czech Republic	0.93	73	0.79	0.90	0.90	0.85	0.82	0.87
Denmark	0.91	70	0.77	0.89	0.88	0.81	0.81	0.86
Egypt	0.93	73	0.84	0.91	0.87	0.78	0.83	0.89
England	-	-	-	-	-	-	-	-
Finland	0.92	73	0.75	0.91	0.91	0.85	0.80	0.89
France	0.87	61	0.70	0.85	0.83	0.75	0.75	0.81
Georgia	0.92	71	0.79	0.89	0.89	0.78	0.84	0.87
Germany	0.89	64	0.77	0.85	0.84	0.76	0.77	0.80
Hong Kong SAR	0.90	72	0.80	0.88	0.86	-	0.85	0.83
Hungary	0.93	73	0.82	0.90	0.90	0.80	0.86	0.84
Iran, Islamic Rep. of	0.93	75	0.82	0.89	0.90	0.83	0.87	0.89
Ireland	0.93	75	0.78	0.89	0.91	0.87	0.85	0.88
Israel	0.90	69	0.72	0.88	0.88	0.82	0.80	0.86
Italy	0.91	68	0.79	0.88	0.85	0.78	0.81	0.84
Kazakhstan	0.90	66	0.73	0.85	0.87	0.80	0.79	0.83
Kuwait	0.92	72	0.80	0.89	0.88	0.82	0.83	0.87
Latvia	0.91	69	0.76	0.87	0.90	0.83	0.78	0.84
Lithuania	0.91	69	0.77	0.88	0.89	0.84	0.77	0.83
Macao SAR	0.88	62	0.77	0.85	0.86	0.70	0.80	0.75
Malta	0.91	69	0.74	0.88	0.89	0.83	0.80	0.86
Morocco	0.94	76	0.86	0.92	0.90	0.77	0.87	0.90
Netherlands	0.92	72	0.77	0.89	0.89	0.83	0.83	0.86
New Zealand	0.90	71	0.77	0.89	0.90	0.85	0.80	-
Northern Ireland	-	-	-	-	-	-	-	-
Norway (5)	0.91	70	0.79	0.89	0.88	0.79	0.82	0.86
Oman	0.90	67	0.76	0.88	0.87	0.78	0.77	0.85
Poland	0.92	72	0.79	0.89	0.89	0.83	0.83	0.87
Portugal	0.90	67	0.73	0.88	0.87	0.80	0.79	0.83
Qatar	0.90	68	0.74	0.88	0.87	0.79	0.80	0.86
Russian Federation	0.91	70	0.77	0.90	0.90	0.84	0.78	0.83
Saudi Arabia	0.91	70	0.76	0.89	0.89	0.80	0.80	0.88
Singapore	0.92	72	0.77	0.89	0.89	0.85	0.81	0.86
Slovak Republic	0.91	69	0.78	0.89	0.87	0.77	0.81	0.83
Slovenia	0.93	73	0.81	0.90	0.89	0.82	0.84	0.87
South Africa	0.88	62	0.69	0.82	0.84	0.81	0.75	0.79
Spain	0.93	73	0.81	0.89	0.90	0.85	0.84	0.86
Sweden	0.92	72	0.80	0.89	0.89	0.81	0.83	0.88
Trinidad and Tobago	0.88	63	0.68	0.84	0.86	0.82	0.75	0.80
United Arab Emirates	0.91	69	0.77	0.88	0.88	0.81	0.79	0.86
United States	-	-	-	-	-	-	-	-
Benchmarking Participants								
Buenos Aires, Argentina	0.89	66	0.75	0.86	0.86	0.80	0.78	0.81
Ontario, Canada	0.92	72	0.76	0.89	0.90	0.85	0.81	0.86
Quebec, Canada	0.90	66	0.71	0.87	0.86	0.80	0.78	0.85
Denmark (3)	0.91	68	0.77	0.89	0.88	0.80	0.77	0.86
Norway (4)	0.91	70	0.79	0.89	0.88	0.77	0.82	0.86
Moscow City, Russian Fed.	0.91	69	0.75	0.88	0.90	0.84	0.78	0.83
Eng/Afr/Zulu - RSA (5)	0.88	63	0.68	0.83	0.85	0.82	0.75	0.81
Andalusia, Spain	0.93	75	0.83	0.90	0.91	0.85	0.85	0.87
Madrid, Spain	0.92	73	0.81	0.89	0.90	0.84	0.83	0.87
Abu Dhabi, UAE	0.91	70	0.78	0.88	0.88	0.81	0.79	0.86
Dubai, UAE	0.90	68	0.74	0.87	0.87	0.82	0.79	0.84

SOURCE: IEA’s Progress in International Reading Literacy Study – PIRLS 2016

A dash (–) indicates comparable data not available.

Relationship Between the PIRLS 2016 *Could Do Early Literacy Tasks When Beginning Primary School* Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.22	0.05	0.04
Austria	-0.02	0.00	0.01
Azerbaijan	0.18	0.03	0.03
Bahrain	0.38	0.14	0.12
Belgium (Flemish)	-0.04	0.00	0.00
Belgium (French)	0.09	0.01	0.01
Bulgaria	0.44	0.19	0.13
Canada	0.30	0.09	0.08
Chile	0.31	0.10	0.08
Chinese Taipei	0.35	0.12	0.12
Czech Republic	0.16	0.03	0.03
Denmark	0.33	0.11	0.09
Egypt	0.42	0.18	0.17
England	-	-	-
Finland	0.40	0.16	0.13
France	0.19	0.04	0.03
Georgia	0.17	0.03	0.02
Germany	0.11	0.01	0.01
Hong Kong SAR	0.36	0.13	0.11
Hungary	0.10	0.01	0.01
Iran, Islamic Rep. of	0.19	0.04	0.02
Ireland	0.39	0.16	0.13
Israel	0.03	0.00	0.00
Italy	0.09	0.01	0.01
Kazakhstan	0.18	0.03	0.04
Kuwait	0.30	0.09	0.09
Latvia	0.37	0.13	0.12
Lithuania	0.45	0.20	0.18
Macao SAR	0.31	0.10	0.09
Malta	0.29	0.08	0.07
Morocco	0.35	0.12	0.13
Netherlands	0.17	0.03	0.03
New Zealand	0.13	0.02	0.02
Northern Ireland	-	-	-
Norway (5)	0.26	0.07	0.05
Oman	0.39	0.15	0.13
Poland	0.29	0.08	0.07
Portugal	0.14	0.02	0.02
Qatar	0.29	0.08	0.07
Russian Federation	0.35	0.12	0.11
Saudi Arabia	0.17	0.03	0.03
Singapore	0.46	0.21	0.19
Slovak Republic	0.15	0.02	0.01
Slovenia	0.26	0.07	0.07
South Africa	0.19	0.04	0.04
Spain	0.35	0.12	0.11
Sweden	0.38	0.15	0.12
Trinidad and Tobago	0.34	0.12	0.10
United Arab Emirates	0.37	0.13	0.13
United States	-	-	-
International Median	0.29	0.08	0.07
Benchmarking Participants			
Buenos Aires, Argentina	0.23	0.05	0.05
Ontario, Canada	0.34	0.12	0.10
Quebec, Canada	0.19	0.04	0.04
Denmark (3)	0.34	0.11	0.11
Norway (4)	0.31	0.10	0.07
Moscow City, Russian Fed.	0.39	0.15	0.14
Eng/Afr/Zulu - RSA (5)	0.21	0.05	0.05
Andalusia, Spain	0.33	0.11	0.09
Madrid, Spain	0.33	0.11	0.09
Abu Dhabi, UAE	0.41	0.17	0.16
Dubai, UAE	0.30	0.09	0.08

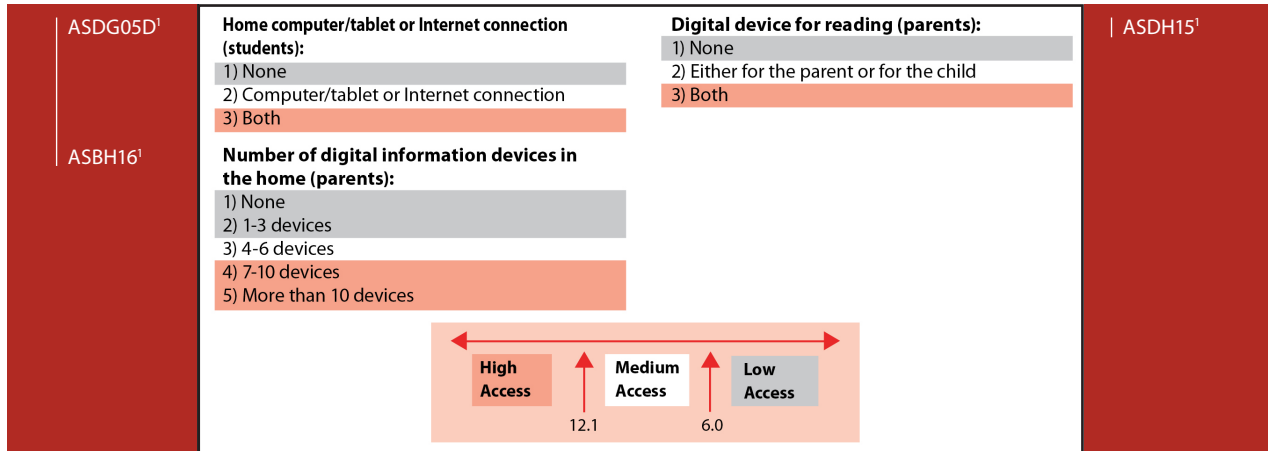
SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Digital Devices in the Home Scale

The *Digital Devices in the Home* (DDH) scale was created based on parents' responses concerning the availability of three resources described below.

Items in the PIRLS 2016 *Digital Devices in the Home* Scale



¹ Derived variable. For more details, see Supplement 3 of the [User Guide for the PIRLS 2016 International Database](#).

Item Parameters for the PIRLS 2016 *Digital Devices in the Home Scale*

Item	delta	tau_1	tau_2	tau_3	tau_4	Infit
ASDG05D	-1.01084	0.19104	-0.19104			0.97
ASBH16	0.78901	-2.55418	-0.25050	0.94345	1.86123	1.01
ASDH15	0.22183	0.40387	-0.40387			1.04

Scale Transformation Constants for the PIRLS 2016 *Digital Devices in the Home Scale*

Scale Transformation Constants

A = 8.607915

B = 1.618512

Transformed Scale Score = 8.607915 + 1.618512 • Logit Scale Score

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 *Digital Devices in the Home Scale*

Raw Score	Transformed Scale Score	Cutpoint
0	3.92341	
1	5.90375	6.0
2	6.97819	
3	7.91040	
4	8.78694	
5	9.68170	
6	10.78844	
7	12.19680	12.1
8	14.32363	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Digital Devices in the Home Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item		
			ASDQ05D	ASBH16	ASDH15
Australia	0.32	43	0.58	0.71	0.68
Austria	0.38	45	0.48	0.78	0.72
Azerbaijan	0.77	68	0.80	0.82	0.86
Bahrain	0.38	45	0.62	0.69	0.70
Belgium (Flemish)	0.25	40	0.46	0.74	0.68
Belgium (French)	0.33	44	0.60	0.72	0.66
Bulgaria	0.58	57	0.77	0.76	0.73
Canada	0.34	44	0.58	0.71	0.69
Chile	0.61	57	0.68	0.79	0.78
Chinese Taipei	0.36	44	0.60	0.69	0.70
Czech Republic	0.35	44	0.57	0.76	0.65
Denmark	0.18	39	0.49	0.70	0.66
Egypt	0.70	62	0.74	0.79	0.84
England	-	-	-	-	-
Finland	0.21	39	0.44	0.70	0.70
France	0.30	42	0.59	0.69	0.67
Georgia	0.63	58	0.75	0.77	0.76
Germany	0.41	46	0.58	0.72	0.72
Hong Kong SAR	0.27	41	0.49	0.70	0.70
Hungary	0.50	53	0.73	0.70	0.75
Iran, Islamic Rep. of	0.73	65	0.76	0.79	0.86
Ireland	0.33	43	0.49	0.73	0.72
Israel	0.31	44	0.69	0.73	0.56
Italy	0.41	47	0.64	0.73	0.68
Kazakhstan	0.65	59	0.76	0.74	0.81
Kuwait	0.31	43	0.48	0.73	0.72
Latvia	0.31	43	0.61	0.70	0.66
Lithuania	0.40	48	0.72	0.71	0.66
Macao SAR	0.32	43	0.57	0.71	0.67
Malta	0.24	40	0.54	0.70	0.65
Morocco	0.75	66	0.79	0.79	0.86
Netherlands	0.26	40	0.10	0.78	0.77
New Zealand	0.47	50	0.62	0.76	0.73
Northern Ireland	0.36	44	0.42	0.77	0.75
Norway (5)	0.19	39	0.49	0.74	0.63
Oman	0.49	50	0.65	0.71	0.76
Poland	0.29	44	0.63	0.67	0.68
Portugal	0.44	49	0.63	0.72	0.75
Qatar	0.34	45	0.65	0.64	0.72
Russian Federation	0.55	54	0.73	0.71	0.78
Saudi Arabia	0.43	47	0.63	0.72	0.71
Singapore	0.30	44	0.66	0.67	0.66
Slovak Republic	0.45	50	0.71	0.72	0.67
Slovenia	0.34	43	0.50	0.73	0.72
South Africa	0.53	51	0.53	0.80	0.78
Spain	0.42	47	0.56	0.75	0.73
Sweden	0.21	39	0.48	0.72	0.65
Trinidad and Tobago	0.58	56	0.68	0.78	0.78
United Arab Emirates	0.26	42	0.64	0.62	0.67
United States	-	-	-	-	-
Benchmarking Participants					
Buenos Aires, Argentina	0.37	45	0.59	0.75	0.67
Ontario, Canada	0.29	42	0.56	0.69	0.69
Quebec, Canada	0.29	43	0.57	0.71	0.67
Denmark (3)	0.15	37	0.34	0.74	0.67
Norway (4)	0.22	40	0.49	0.74	0.64
Moscow City, Russian Fed.	0.24	41	0.49	0.69	0.72
Eng/Afr/Zulu - RSA (5)	0.60	55	0.67	0.78	0.78
Andalusia, Spain	0.48	50	0.58	0.76	0.76
Madrid, Spain	0.43	47	0.49	0.78	0.76
Abu Dhabi, UAE	0.24	41	0.60	0.61	0.70
Dubai, UAE	0.17	39	0.66	0.63	0.60

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 *Digital Devices in the Home* Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.12	0.02	0.01
Austria	0.12	0.01	0.02
Azerbaijan	0.29	0.09	0.06
Bahrain	0.20	0.04	0.02
Belgium (Flemish)	0.05	0.00	0.01
Belgium (French)	0.08	0.01	0.00
Bulgaria	0.36	0.13	0.09
Canada	0.12	0.01	0.01
Chile	0.23	0.05	0.04
Chinese Taipei	0.20	0.04	0.02
Czech Republic	0.14	0.02	0.03
Denmark	0.10	0.01	0.00
Egypt	0.36	0.13	0.09
England	-	-	-
Finland	0.14	0.02	0.02
France	0.03	0.00	0.00
Georgia	0.17	0.03	0.01
Germany	0.01	0.00	0.00
Hong Kong SAR	0.10	0.01	0.00
Hungary	0.26	0.07	0.04
Iran, Islamic Rep. of	0.32	0.10	0.07
Ireland	0.11	0.01	0.01
Israel	0.18	0.03	0.04
Italy	0.07	0.01	0.00
Kazakhstan	0.20	0.04	0.02
Kuwait	0.12	0.01	0.01
Latvia	0.16	0.03	0.02
Lithuania	0.22	0.05	0.04
Macao SAR	0.16	0.02	0.01
Malta	0.11	0.01	0.01
Morocco	0.31	0.10	0.07
Netherlands	0.08	0.01	0.00
New Zealand	0.18	0.03	0.02
Northern Ireland	0.12	0.01	0.01
Norway (5)	0.12	0.01	0.01
Oman	0.23	0.05	0.03
Poland	0.17	0.03	0.03
Portugal	0.21	0.04	0.03
Qatar	0.24	0.06	0.03
Russian Federation	0.28	0.08	0.04
Saudi Arabia	0.13	0.02	0.01
Singapore	0.27	0.07	0.05
Slovak Republic	0.33	0.11	0.11
Slovenia	0.18	0.03	0.02
South Africa	0.22	0.05	0.04
Spain	0.21	0.04	0.03
Sweden	0.13	0.02	0.01
Trinidad and Tobago	0.27	0.07	0.04
United Arab Emirates	0.18	0.03	0.01
United States	-	-	-
International Median	0.17	0.03	0.02
Benchmarking Participants			
Buenos Aires, Argentina	0.24	0.06	0.04
Ontario, Canada	0.11	0.01	0.01
Quebec, Canada	0.11	0.01	0.01
Denmark (3)	0.13	0.02	0.01
Norway (4)	0.16	0.03	0.02
Moscow City, Russian Fed.	0.15	0.02	0.01
Eng/Afr/Zulu - RSA (5)	0.37	0.14	0.08
Andalusia, Spain	0.18	0.03	0.02
Madrid, Spain	0.20	0.04	0.03
Abu Dhabi, UAE	0.19	0.04	0.02
Dubai, UAE	0.14	0.02	0.01

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 *Digital Devices in the Home* Scale and ePIRLS 2016 Online Informational Reading Achievement

Country	Pearson's Correlation with ePIRLS Achievement		Variance in ePIRLS Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Canada	0.19	0.04	0.02
Chinese Taipei	0.24	0.06	0.03
Denmark	0.10	0.01	0.00
Georgia	0.16	0.03	0.01
Ireland	0.15	0.02	0.01
Israel	0.18	0.03	0.03
Italy	0.13	0.02	0.01
Norway	0.12	0.01	0.01
Portugal	0.26	0.07	0.04
Singapore	0.29	0.08	0.06
Slovenia	0.20	0.04	0.03
Sweden	0.14	0.02	0.01
United Arab Emirates	0.18	0.03	0.01
United States	-	-	-
International Median	0.18	0.03	0.01
Benchmarking Participants			
Abu Dhabi, UAE	0.20	0.04	0.02
Dubai, UAE	0.14	0.02	0.01

A dash (-) indicates comparable data not available.

Early Literacy Activities Before Beginning Primary School Scale

The *Early Literacy Activities Before Beginning Primary School* (ELA) scale was created based on parents' frequency of doing the nine activities described below.

Items in the PIRLS 2016 *Early Literacy Activities Before Beginning Primary School* Scale

		Before your child began primary/elementary school, how often did you or someone else in your home do the following activities with him or her?			
		Often	Sometimes	Never or almost never	
T	ASBH02A	1) Read books.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02B	2) Tell stories.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02C	3) Sing songs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02D	4) Play with alphabet toys (e.g., blocks with letters of the alphabet).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02E	5) Talk about things you had done.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02F	6) Talk about what you had read.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02G	7) Play word games.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02H	8) Write letters or words.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ASBH02I	9) Read aloud signs and labels.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Often 10.7 Sometimes 6.2 Never or Almost Never

T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

Item Parameters for the PIRLS 2016 Early Literacy Activities Before Beginning Primary School Scale

Item	delta	tau_1	tau_2	Infit
ASBH02A	-0.43565	-1.37653	1.37653	0.96
ASBH02B	-0.21414	-1.38385	1.38385	0.97
ASBH02C	0.14115	-0.92504	0.92504	1.14
ASBH02D	0.31840	-0.99895	0.99895	1.02
ASBH02E	-0.89489	-1.18523	1.18523	1.03
ASBH02F	0.31620	-1.36183	1.36183	0.95
ASBH02G	0.54796	-1.22190	1.22190	0.95
ASBH02H	0.02688	-1.14591	1.14591	1.00
ASBH02I	0.19409	-0.98400	0.98400	1.00

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Scale Transformation Constants for the PIRLS 2016 Early Literacy Activities Before Beginning Primary School Scale

Scale Transformation Constants	
A = 8.467126	Transformed Scale Score = 8.467126 + 1.488680 • Logit Scale Score
B = 1.488680	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Early Literacy Activities Before Beginning Primary School Scale

Raw Score	Transformed Scale Score	Cutpoint
0	2.13736	
1	3.95698	
2	4.90763	
3	5.60873	
4	6.18976	6.2
5	6.70267	
6	7.17841	
7	7.62846	
8	8.06349	
9	8.49167	
10	8.91693	
11	9.34703	
12	9.78848	
13	10.25182	
14	10.74970	10.7
15	11.31055	
16	11.98750	
17	12.91216	
18	14.70318	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Early Literacy Activities Before Beginning Primary School Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item								
			ASBH02A	ASBH02B	ASBH02C	ASBH02D	ASBH02E	ASBH02F	ASBH02G	ASBH02H	ASBH02I
Australia	0.83	42	0.63	0.66	0.58	0.63	0.62	0.68	0.72	0.63	0.69
Austria	0.70	30	0.58	0.63	0.53	0.47	0.50	0.61	0.63	0.39	0.53
Azerbaijan	0.76	35	0.65	0.61	0.40	0.59	0.45	0.66	0.59	0.65	0.65
Bahrain	0.71	31	0.54	0.56	0.38	0.59	0.48	0.57	0.63	0.61	0.57
Belgium (Flemish)	0.75	33	0.55	0.56	0.51	0.56	0.51	0.60	0.67	0.59	0.62
Belgium (French)	0.72	31	0.57	0.56	0.44	0.60	0.47	0.55	0.67	0.58	0.56
Bulgaria	0.85	46	0.71	0.69	0.50	0.73	0.63	0.72	0.70	0.74	0.67
Canada	0.80	39	0.61	0.63	0.54	0.62	0.53	0.67	0.71	0.63	0.67
Chile	0.78	36	0.60	0.64	0.51	0.63	0.48	0.63	0.69	0.65	0.56
Chinese Taipei	0.81	40	0.69	0.69	0.58	0.60	0.57	0.64	0.67	0.58	0.67
Czech Republic	0.71	30	0.52	0.58	0.41	0.50	0.51	0.67	0.59	0.55	0.57
Denmark	0.75	33	0.56	0.58	0.50	0.56	0.46	0.67	0.66	0.59	0.58
Egypt	0.85	46	0.66	0.70	0.51	0.73	0.63	0.71	0.72	0.73	0.67
England	-	-	-	-	-	-	-	-	-	-	-
Finland	0.74	33	0.56	0.58	0.48	0.58	0.46	0.68	0.60	0.59	0.59
France	0.71	30	0.55	0.55	0.41	0.58	0.46	0.58	0.63	0.59	0.56
Georgia	0.77	37	0.66	0.59	0.42	0.67	0.46	0.61	0.65	0.64	0.69
Germany	0.69	30	0.54	0.57	0.46	0.48	0.47	0.61	0.66	0.51	0.57
Hong Kong SAR	0.78	36	0.63	0.65	0.59	0.49	0.55	0.66	0.69	0.53	0.62
Hungary	0.73	31	0.51	0.49	0.48	0.66	0.45	0.55	0.64	0.60	0.64
Iran, Islamic Rep. of	0.79	37	0.62	0.54	0.50	0.66	0.54	0.63	0.67	0.66	0.65
Ireland	0.80	38	0.58	0.63	0.54	0.59	0.52	0.65	0.68	0.66	0.68
Israel	0.76	35	0.53	0.58	0.47	0.65	0.49	0.64	0.69	0.63	0.60
Italy	0.71	30	0.54	0.57	0.41	0.61	0.41	0.59	0.61	0.58	0.58
Kazakhstan	0.70	30	0.60	0.44	0.40	0.54	0.54	0.63	0.48	0.60	0.61
Kuwait	0.72	31	0.54	0.51	0.35	0.62	0.49	0.55	0.66	0.64	0.59
Latvia	0.72	31	0.62	0.59	0.44	0.57	0.47	0.64	0.62	0.55	0.51
Lithuania	0.72	32	0.57	0.54	0.44	0.64	0.52	0.68	0.63	0.57	0.46
Macao SAR	0.78	36	0.65	0.65	0.57	0.52	0.53	0.64	0.65	0.58	0.61
Malta	0.80	38	0.66	0.65	0.52	0.59	0.53	0.69	0.67	0.60	0.64
Morocco	0.86	46	0.71	0.66	0.43	0.71	0.62	0.73	0.71	0.80	0.70
Netherlands	0.73	32	0.48	0.52	0.48	0.57	0.47	0.55	0.69	0.65	0.61
New Zealand	0.83	42	0.64	0.67	0.57	0.64	0.57	0.69	0.73	0.65	0.69
Northern Ireland	0.81	40	0.57	0.64	0.53	0.61	0.58	0.71	0.72	0.62	0.65
Norway (5)	0.76	34	0.57	0.59	0.46	0.62	0.43	0.65	0.67	0.59	0.62
Oman	0.70	31	0.59	0.55	0.24	0.57	0.46	0.58	0.62	0.62	0.63
Poland	0.76	34	0.55	0.57	0.50	0.62	0.54	0.67	0.61	0.60	0.58
Portugal	0.76	34	0.63	0.65	0.48	0.62	0.49	0.62	0.67	0.58	0.49
Qatar	0.77	35	0.60	0.59	0.49	0.60	0.52	0.62	0.64	0.64	0.63
Russian Federation	0.77	35	0.61	0.53	0.49	0.64	0.58	0.66	0.64	0.62	0.56
Saudi Arabia	0.72	32	0.59	0.60	0.22	0.60	0.51	0.61	0.65	0.65	0.57
Singapore	0.83	43	0.70	0.72	0.58	0.65	0.58	0.68	0.67	0.64	0.69
Slovak Republic	0.76	35	0.58	0.57	0.43	0.62	0.62	0.70	0.62	0.57	0.56
Slovenia	0.75	34	0.53	0.62	0.55	0.59	0.44	0.60	0.66	0.55	0.64
South Africa	0.77	36	0.64	0.51	0.46	0.64	0.52	0.64	0.65	0.66	0.66
Spain	0.75	34	0.59	0.60	0.46	0.63	0.45	0.60	0.66	0.62	0.56
Sweden	0.76	35	0.56	0.54	0.49	0.61	0.51	0.67	0.68	0.62	0.60
Trinidad and Tobago	0.78	36	0.67	0.65	0.51	0.55	0.50	0.66	0.62	0.61	0.63
United Arab Emirates	0.73	32	0.54	0.56	0.44	0.55	0.54	0.58	0.63	0.61	0.59
United States	-	-	-	-	-	-	-	-	-	-	-
Benchmarking Participants											
Buenos Aires, Argentina	0.76	34	0.62	0.62	0.49	0.66	0.46	0.58	0.67	0.62	0.52
Ontario, Canada	0.81	40	0.62	0.64	0.56	0.61	0.52	0.68	0.72	0.63	0.70
Quebec, Canada	0.76	35	0.58	0.60	0.48	0.62	0.51	0.61	0.68	0.59	0.62
Denmark (3)	0.74	33	0.56	0.59	0.50	0.55	0.47	0.67	0.65	0.55	0.56
Norway (4)	0.76	34	0.55	0.59	0.48	0.63	0.45	0.63	0.66	0.61	0.61
Moscow City, Russian Fed.	0.76	35	0.59	0.58	0.53	0.59	0.59	0.67	0.64	0.58	0.50
Eng/Afr/Zulu - RSA (5)	0.75	34	0.63	0.58	0.42	0.60	0.49	0.58	0.63	0.64	0.62
Andalusia, Spain	0.75	34	0.59	0.60	0.49	0.62	0.47	0.61	0.64	0.61	0.56
Madrid, Spain	0.73	32	0.56	0.58	0.47	0.57	0.42	0.62	0.63	0.61	0.57
Abu Dhabi, UAE	0.73	32	0.53	0.55	0.44	0.54	0.57	0.59	0.63	0.63	0.60
Dubai, UAE	0.75	33	0.60	0.59	0.45	0.57	0.52	0.61	0.63	0.60	0.61

A dash (-) indicates comparable data not available.

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 *Early Literacy Activities Before Beginning Primary School* Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.15	0.02	0.02
Austria	0.20	0.04	0.03
Azerbaijan	0.16	0.02	0.02
Bahrain	0.22	0.05	0.04
Belgium (Flemish)	0.18	0.03	0.03
Belgium (French)	0.19	0.03	0.03
Bulgaria	0.41	0.17	0.15
Canada	0.19	0.04	0.03
Chile	0.24	0.06	0.04
Chinese Taipei	0.24	0.06	0.04
Czech Republic	0.13	0.02	0.01
Denmark	0.19	0.04	0.03
Egypt	0.34	0.12	0.09
England	-	-	-
Finland	0.18	0.03	0.02
France	0.17	0.03	0.02
Georgia	0.08	0.01	0.01
Germany	0.18	0.03	0.02
Hong Kong SAR	0.08	0.01	0.00
Hungary	0.14	0.02	0.02
Iran, Islamic Rep. of	0.24	0.06	0.05
Ireland	0.27	0.07	0.06
Israel	0.16	0.02	0.02
Italy	0.15	0.02	0.01
Kazakhstan	0.10	0.01	0.00
Kuwait	0.19	0.04	0.02
Latvia	0.13	0.02	0.01
Lithuania	0.14	0.02	0.02
Macao SAR	0.10	0.01	0.01
Malta	0.19	0.04	0.03
Morocco	0.21	0.04	0.04
Netherlands	0.14	0.02	0.01
New Zealand	0.26	0.07	0.06
Northern Ireland	0.16	0.03	0.03
Norway (5)	0.18	0.03	0.03
Oman	0.25	0.06	0.04
Poland	0.12	0.01	0.01
Portugal	0.19	0.04	0.03
Qatar	0.22	0.05	0.04
Russian Federation	0.17	0.03	0.02
Saudi Arabia	0.16	0.03	0.02
Singapore	0.24	0.06	0.04
Slovak Republic	0.25	0.06	0.08
Slovenia	0.21	0.04	0.04
South Africa	0.11	0.01	0.02
Spain	0.23	0.05	0.04
Sweden	0.18	0.03	0.03
Trinidad and Tobago	0.25	0.06	0.05
United Arab Emirates	0.25	0.06	0.04
United States	-	-	-
International Median	0.19	0.03	0.03
Benchmarking Participants			
Buenos Aires, Argentina	0.26	0.07	0.05
Ontario, Canada	0.20	0.04	0.03
Quebec, Canada	0.17	0.03	0.03
Denmark (3)	0.16	0.02	0.02
Norway (4)	0.20	0.04	0.03
Moscow City, Russian Fed.	0.17	0.03	0.02
Eng/Afr/Zulu - RSA (5)	0.13	0.02	0.02
Andalusia, Spain	0.24	0.06	0.04
Madrid, Spain	0.17	0.03	0.02
Abu Dhabi, UAE	0.23	0.05	0.04
Dubai, UAE	0.27	0.07	0.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Home Resources for Learning Scale

The *Home Resources for Learning* (HRL) scale was created based on students' and parents' responses concerning the availability of five resources described below.

Items in the PIRLS 2016 *Home Resources for Learning* Scale

T ASBG04	<p>Number of books in the home (students):</p> <ol style="list-style-type: none"> 1) 0-10 2) 11-25 3) 26-100 4) 101-200 5) More than 200 	<p>Number of children's books in the home (parents):</p> <ol style="list-style-type: none"> 1) 0-10 2) 11-25 3) 26-50 4) 51-100 5) More than 100 	T ASBH14
T ASDG05S ¹	<p>Number of home study supports (students):</p> <ol style="list-style-type: none"> 1) None 2) Internet connection or own room 3) Both 	<p>Highest level of education of either parent (parents):</p> <ol style="list-style-type: none"> 1) Finished some primary or lower secondary or did not go to school 2) Finished lower secondary 3) Finished upper secondary 4) Finished post-secondary education 5) Finished university or higher 	T ASDHEDUP ¹
T ASDHOCCP ¹	<p>Highest level of occupation of either parent (parents):</p> <ol style="list-style-type: none"> 1) Has never worked outside home for pay, general laborer, or semi-professional (skilled agricultural or fishery worker, craft or trade worker, plant or machine operator) 2) Clerical (clerk or service or sales worker) 3) Small business owner 4) Professional (corporate manager or senior official, professional, or technician or associate professional) 		

T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

1 Derived variable. For more details, see Supplement 3 of the [User Guide for the PIRLS 2016 International Database](#).

Item Parameters for the PIRLS 2016 Home Resources for Learning Scale

Item	delta	tau_1	tau_2	tau_3	tau_4	Infit
ASBG04	0.64203	-1.31056	-0.54699	0.96645	0.89110	1.00
ASDG05S	-0.95160	-0.80498	0.80498			1.06
ASDHOCPP	0.08290	-0.31922	0.95822	-0.63900		1.02
ASBH14	0.66949	-0.85830	-0.54569	0.43193	0.97206	0.96
ASDHEDUP	-0.44282	-0.60843	-0.91684	0.99045	0.53482	0.96

Scale Transformation Constants for the PIRLS 2016 Home Resources for Learning Scale

Scale Transformation Constants	
A = 9.470169	Transformed Scale Score = 9.470169 + 1.658175 • Logit Scale Score
B = 1.658175	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Home Resources for Learning Scale

Raw Score	Transformed Scale Score	Cutpoint
0	4.03041	
1	5.88662	
2	6.79193	
3	7.44990	7.5
4	7.99030	
5	8.45482	
6	8.86479	
7	9.23157	
8	9.56865	
9	9.89060	
10	10.22039	
11	10.55954	
12	10.92762	
13	11.34044	
14	11.82688	11.8
15	12.41852	
16	13.22250	
17	14.80246	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Home Resources for Learning Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item				
			ASBG04	ASDG05	ASDH0CP	ASBH14	ASDHEDUP
Australia	0.65	42	0.66	0.31	0.76	0.69	0.73
Austria	0.73	48	0.75	0.31	0.75	0.77	0.78
Azerbaijan	0.65	42	0.62	0.54	0.71	0.61	0.73
Bahrain	0.59	38	0.54	0.22	0.73	0.67	0.77
Belgium (Flemish)	0.67	44	0.70	0.31	0.72	0.71	0.76
Belgium (French)	0.72	48	0.71	0.35	0.75	0.78	0.77
Bulgaria	0.82	58	0.77	0.44	0.82	0.82	0.87
Canada	0.61	40	0.68	0.31	0.70	0.69	0.67
Chile	0.69	45	0.57	0.39	0.79	0.70	0.81
Chinese Taipei	0.73	48	0.78	0.27	0.72	0.78	0.78
Czech Republic	0.68	45	0.73	0.12	0.74	0.76	0.76
Denmark	0.66	44	0.70	0.31	0.74	0.72	0.74
Egypt	0.62	40	0.53	0.55	0.72	0.54	0.77
England	-	-	-	-	-	-	-
Finland	0.64	42	0.69	0.18	0.72	0.70	0.75
France	0.72	47	0.73	0.42	0.70	0.77	0.76
Georgia	0.71	47	0.71	0.45	0.71	0.77	0.75
Germany	0.70	46	0.70	0.28	0.71	0.79	0.78
Hong Kong SAR	0.74	49	0.73	0.36	0.77	0.77	0.79
Hungary	0.81	58	0.81	0.31	0.83	0.83	0.87
Iran, Islamic Rep. of	0.73	48	0.70	0.59	0.67	0.71	0.78
Ireland	0.68	45	0.72	0.11	0.74	0.75	0.77
Israel	0.73	56	0.63	-	0.78	0.76	0.81
Italy	0.67	44	0.67	0.13	0.76	0.75	0.79
Kazakhstan	0.60	39	0.64	0.53	0.65	0.63	0.67
Kuwait	0.53	35	0.47	0.23	0.74	0.55	0.79
Latvia	0.68	45	0.69	0.29	0.70	0.77	0.77
Lithuania	0.74	50	0.72	0.36	0.78	0.79	0.77
Macao SAR	0.71	47	0.72	0.29	0.74	0.75	0.78
Malta	0.62	41	0.55	0.09	0.80	0.66	0.81
Morocco	0.76	50	0.71	0.60	0.75	0.68	0.78
Netherlands	0.67	44	0.68	0.16	0.78	0.69	0.79
New Zealand	0.67	44	0.67	0.36	0.72	0.72	0.76
Northern Ireland	0.68	45	0.71	0.23	0.75	0.71	0.79
Norway (5)	0.67	45	0.67	0.28	0.75	0.73	0.79
Oman	0.63	41	0.53	0.42	0.75	0.62	0.78
Poland	0.73	48	0.68	0.33	0.79	0.73	0.82
Portugal	0.73	48	0.70	0.20	0.79	0.77	0.81
Qatar	0.56	37	0.53	0.32	0.68	0.68	0.72
Russian Federation	0.64	42	0.66	0.39	0.69	0.69	0.75
Saudi Arabia	0.51	34	0.49	0.22	0.73	0.51	0.77
Singapore	0.67	44	0.70	0.29	0.72	0.72	0.77
Slovak Republic	0.77	53	0.77	0.36	0.80	0.80	0.81
Slovenia	0.69	46	0.70	0.07	0.77	0.75	0.80
South Africa	0.62	39	0.56	0.55	0.74	0.50	0.71
Spain	0.68	45	0.66	0.14	0.78	0.75	0.78
Sweden	0.69	46	0.71	0.37	0.73	0.75	0.76
Trinidad and Tobago	0.61	39	0.60	0.42	0.71	0.62	0.72
United Arab Emirates	0.58	38	0.56	0.35	0.68	0.71	0.69
United States	-	-	-	-	-	-	-
Benchmarking Participants							
Buenos Aires, Argentina	0.74	49	0.62	0.35	0.82	0.77	0.81
Ontario, Canada	0.57	37	0.64	0.33	0.68	0.67	0.66
Quebec, Canada	0.63	41	0.70	0.31	0.70	0.72	0.66
Denmark (3)	0.65	43	0.69	0.24	0.74	0.72	0.76
Norway (4)	0.66	44	0.64	0.25	0.74	0.72	0.79
Moscow City, Russian Fed.	0.59	39	0.63	0.24	0.70	0.73	0.70
Eng/Afr/Zulu - RSA (5)	0.70	45	0.64	0.56	0.75	0.60	0.76
Andalusia, Spain	0.69	46	0.67	0.11	0.77	0.75	0.81
Madrid, Spain	0.69	46	0.68	0.09	0.80	0.73	0.80
Abu Dhabi, UAE	0.54	36	0.51	0.31	0.69	0.68	0.71
Dubai, UAE	0.60	39	0.67	0.40	0.61	0.76	0.63

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 Home Resources for Learning Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.41	0.17	0.12
Austria	0.49	0.24	0.13
Azerbaijan	0.31	0.10	0.06
Bahrain	0.37	0.13	0.06
Belgium (Flemish)	0.39	0.15	0.10
Belgium (French)	0.47	0.22	0.16
Bulgaria	0.56	0.31	0.23
Canada	0.35	0.12	0.09
Chile	0.34	0.11	0.05
Chinese Taipei	0.39	0.15	0.09
Czech Republic	0.44	0.20	0.14
Denmark	0.37	0.14	0.10
Egypt	0.40	0.16	0.13
England	-	-	-
Finland	0.38	0.14	0.09
France	0.42	0.18	0.11
Georgia	0.33	0.11	0.06
Germany	0.47	0.22	0.12
Hong Kong SAR	0.11	0.01	0.01
Hungary	0.55	0.31	0.22
Iran, Islamic Rep. of	0.45	0.20	0.14
Ireland	0.44	0.19	0.14
Israel	0.47	0.22	0.12
Italy	0.36	0.13	0.07
Kazakhstan	0.25	0.06	0.03
Kuwait	0.25	0.06	0.02
Latvia	0.37	0.14	0.07
Lithuania	0.45	0.20	0.11
Macao SAR	0.22	0.05	0.04
Malta	0.23	0.05	0.03
Morocco	0.34	0.12	0.08
Netherlands	0.36	0.13	0.08
New Zealand	0.42	0.18	0.13
Northern Ireland	0.38	0.14	0.10
Norway (5)	0.35	0.13	0.08
Oman	0.36	0.13	0.07
Poland	0.41	0.17	0.10
Portugal	0.37	0.14	0.09
Qatar	0.39	0.15	0.07
Russian Federation	0.39	0.15	0.07
Saudi Arabia	0.15	0.02	0.01
Singapore	0.51	0.26	0.16
Slovak Republic	0.59	0.35	0.30
Slovenia	0.44	0.19	0.11
South Africa	0.38	0.14	0.09
Spain	0.36	0.13	0.09
Sweden	0.41	0.17	0.12
Trinidad and Tobago	0.36	0.13	0.07
United Arab Emirates	0.42	0.18	0.09
United States	-	-	-
International Median	0.38	0.15	0.09
Benchmarking Participants			
Buenos Aires, Argentina	0.42	0.18	0.10
Ontario, Canada	0.33	0.11	0.09
Quebec, Canada	0.34	0.11	0.08
Denmark (3)	0.30	0.09	0.06
Norway (4)	0.35	0.13	0.10
Moscow City, Russian Fed.	0.33	0.11	0.07
Eng/Afr/Zulu - RSA (5)	0.46	0.21	0.13
Andalusia, Spain	0.40	0.16	0.09
Madrid, Spain	0.35	0.12	0.08
Abu Dhabi, UAE	0.40	0.16	0.08
Dubai, UAE	0.45	0.20	0.12

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 Home Resources for Learning Scale and ePIRLS 2016 Online Informational Reading Achievement

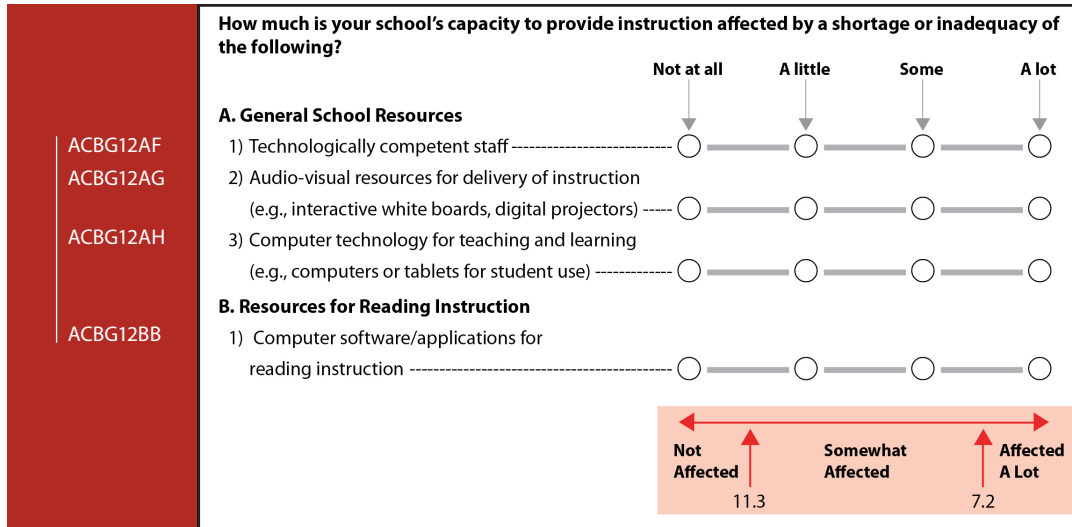
Country	Pearson's Correlation with ePIRLS Achievement		Variance in ePIRLS Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Canada	0.33	0.11	0.09
Chinese Taipei	0.35	0.13	0.08
Denmark	0.34	0.12	0.10
Georgia	0.27	0.07	0.04
Ireland	0.43	0.18	0.13
Israel	0.44	0.19	0.10
Italy	0.32	0.10	0.06
Norway	0.33	0.11	0.07
Portugal	0.37	0.14	0.09
Singapore	0.49	0.24	0.15
Slovenia	0.39	0.15	0.09
Sweden	0.41	0.17	0.12
United Arab Emirates	0.40	0.16	0.08
United States	-	-	-
International Median	0.37	0.14	0.09
Benchmarking Participants			
Abu Dhabi, UAE	0.39	0.15	0.07
Dubai, UAE	0.44	0.19	0.11

A dash (-) indicates comparable data not available.

Instruction Affected by Digital Resource Shortages Scale

The *Instruction Affected by Digital Resource Shortages* (DRS) scale was created based on principals' responses concerning four school and classroom resources described below.

Items in the PIRLS 2016 *Instruction Affected by Digital Resource Shortages* Scale



ACBG12AF
ACBG12AG
ACBG12AH
ACBG12BB

Item Parameters for the PIRLS 2016 Instruction Affected by Digital Resource Shortages Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ACBG12AF	-0.06232	-1.40083	-0.09454	1.49537	1.07
ACBG12AG	-0.14345	-1.27363	0.17090	1.10273	0.87
ACBG12AH	0.16006	-1.46129	0.04607	1.41522	0.88
ACBG12BB	0.04571	-1.73178	-0.08308	1.81486	1.14

Scale Transformation Constants for the PIRLS 2016 Instruction Affected by Digital Resource Shortages Scale

Scale Transformation Constants	
A = 9.264589	Transformed Scale Score = 9.264589 + 1.227112 • Logit Scale Score
B = 1.227112	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Instruction Affected by Digital Resource Shortages Scale

Raw Score	Transformed Scale Score	Cutpoint
0	4.82238	
1	6.34762	
2	7.16657	7.2
3	7.78270	
4	8.31408	
5	8.79730	
6	9.25885	
7	9.72012	
8	10.20216	
9	10.73577	
10	11.36104	11.3
11	12.19853	
12	13.75008	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Instruction Affected by Digital Resource Shortages Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item			
			ACBG12AF	ACBG12AG	ACBG12AH	ACBG12BB
Australia	0.85	69	0.82	0.82	0.88	0.79
Austria	0.74	57	0.60	0.81	0.85	0.74
Azerbaijan	0.76	59	0.70	0.78	0.82	0.76
Bahrain	0.87	73	0.84	0.89	0.88	0.79
Belgium (Flemish)	0.68	51	0.71	0.75	0.81	0.56
Belgium (French)	0.73	56	0.82	0.78	0.73	0.65
Bulgaria	0.69	52	0.50	0.81	0.86	0.65
Canada	0.85	68	0.82	0.85	0.88	0.76
Chile	0.72	56	0.65	0.84	0.88	0.59
Chinese Taipei	0.83	67	0.84	0.91	0.90	0.57
Czech Republic	0.69	52	0.56	0.76	0.84	0.70
Denmark	0.70	53	0.61	0.81	0.72	0.77
Egypt	0.78	61	0.66	0.82	0.81	0.82
England	0.79	62	0.76	0.84	0.84	0.70
Finland	0.76	58	0.72	0.78	0.82	0.71
France	0.72	56	0.52	0.82	0.89	0.72
Georgia	0.72	53	0.63	0.77	0.75	0.76
Germany	0.78	61	0.71	0.81	0.83	0.76
Hong Kong SAR	0.70	52	0.74	0.86	0.76	0.48
Hungary	0.67	52	0.42	0.87	0.83	0.69
Iran, Islamic Rep. of	0.77	60	0.70	0.86	0.85	0.66
Ireland	0.71	54	0.72	0.64	0.81	0.75
Israel	0.85	68	0.82	0.85	0.83	0.80
Italy	0.77	59	0.82	0.83	0.82	0.59
Kazakhstan	0.83	68	0.73	0.85	0.85	0.86
Kuwait	0.77	59	0.74	0.86	0.75	0.72
Latvia	0.75	59	0.82	0.88	0.85	0.47
Lithuania	0.77	59	0.68	0.84	0.83	0.72
Macao SAR	0.70	58	0.86	0.88	0.91	-0.07
Malta	0.80	62	0.75	0.85	0.84	0.71
Morocco	0.86	71	0.75	0.87	0.89	0.85
Netherlands	0.58	45	0.52	0.69	0.76	0.70
New Zealand	0.84	67	0.79	0.84	0.89	0.75
Northern Ireland	0.81	64	0.81	0.86	0.80	0.72
Norway (5)	0.74	56	0.69	0.79	0.79	0.73
Oman	0.81	64	0.80	0.84	0.84	0.72
Poland	0.72	55	0.69	0.83	0.86	0.56
Portugal	0.81	63	0.76	0.76	0.85	0.81
Qatar	0.94	84	0.93	0.96	0.94	0.85
Russian Federation	0.81	64	0.76	0.86	0.85	0.73
Saudi Arabia	0.78	60	0.74	0.81	0.81	0.75
Singapore	0.90	77	0.87	0.91	0.94	0.79
Slovak Republic	0.74	56	0.65	0.85	0.81	0.66
Slovenia	0.69	53	0.60	0.86	0.84	0.57
South Africa	0.88	73	0.66	0.91	0.92	0.90
Spain	0.80	63	0.78	0.84	0.86	0.69
Sweden	0.78	61	0.78	0.81	0.77	0.76
Trinidad and Tobago	0.69	52	0.41	0.70	0.87	0.83
United Arab Emirates	0.89	75	0.88	0.91	0.90	0.75
United States	0.83	67	0.84	0.82	0.85	0.75
Benchmarking Participants						
Buenos Aires, Argentina	0.82	65	0.77	0.82	0.83	0.79
Ontario, Canada	0.87	72	0.84	0.89	0.88	0.79
Quebec, Canada	0.79	61	0.78	0.74	0.87	0.73
Denmark (3)	0.70	53	0.62	0.81	0.73	0.73
Norway (4)	0.73	55	0.69	0.77	0.79	0.73
Moscow City, Russian Fed.	0.86	71	0.85	0.87	0.91	0.73
Eng/Afr/Zulu - RSA (5)	0.84	68	0.59	0.90	0.89	0.89
Andalusia, Spain	0.70	53	0.68	0.79	0.75	0.68
Madrid, Spain	0.80	63	0.76	0.80	0.87	0.76
Abu Dhabi, UAE	0.86	71	0.86	0.89	0.91	0.70
Dubai, UAE	0.92	81	0.90	0.93	0.92	0.85

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Instruction Affected by Digital Resource Shortages Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.11	0.01	0.01
Austria	-0.01	0.00	0.00
Azerbaijan	-0.17	0.03	0.03
Bahrain	0.11	0.01	0.01
Belgium (Flemish)	-0.01	0.00	0.00
Belgium (French)	0.06	0.00	0.00
Bulgaria	0.13	0.02	0.02
Canada	0.02	0.00	0.00
Chile	0.11	0.01	0.02
Chinese Taipei	0.09	0.01	0.00
Czech Republic	-0.04	0.00	0.01
Denmark	0.05	0.00	0.00
Egypt	0.10	0.01	0.02
England	0.05	0.00	0.00
Finland	0.04	0.00	0.01
France	0.04	0.00	0.00
Georgia	0.12	0.01	0.01
Germany	0.12	0.01	0.01
Hong Kong SAR	0.11	0.01	0.01
Hungary	-0.05	0.00	0.01
Iran, Islamic Rep. of	0.13	0.02	0.02
Ireland	0.08	0.01	0.01
Israel	0.24	0.06	0.04
Italy	-0.03	0.00	0.00
Kazakhstan	0.04	0.00	0.01
Kuwait	0.02	0.00	0.01
Latvia	-0.01	0.00	0.00
Lithuania	0.05	0.00	0.00
Macao SAR	-0.13	0.02	0.02
Malta	0.05	0.00	0.00
Morocco	-0.07	0.01	0.01
Netherlands	0.06	0.00	0.00
New Zealand	0.10	0.01	0.00
Northern Ireland	-0.01	0.00	0.00
Norway (5)	0.06	0.00	0.00
Oman	0.08	0.01	0.01
Poland	0.10	0.01	0.01
Portugal	0.11	0.01	0.01
Qatar	0.24	0.06	0.05
Russian Federation	0.08	0.01	0.00
Saudi Arabia	-0.11	0.01	0.02
Singapore	-0.08	0.01	0.01
Slovak Republic	0.04	0.00	0.02
Slovenia	0.04	0.00	0.00
South Africa	-0.02	0.00	0.03
Spain	0.16	0.03	0.03
Sweden	0.12	0.01	0.02
Trinidad and Tobago	0.09	0.01	0.01
United Arab Emirates	0.26	0.07	0.07
United States	-0.06	0.00	0.01
International Median	0.06	0.01	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.10	0.01	0.01
Ontario, Canada	-0.01	0.00	0.00
Quebec, Canada	0.02	0.00	0.00
Denmark (3)	0.02	0.00	0.00
Norway (4)	0.09	0.01	0.00
Moscow City, Russian Fed.	0.01	0.00	0.00
Eng/Afr/Zulu - RSA (5)	-0.03	0.00	0.00
Andalusia, Spain	0.13	0.02	0.01
Madrid, Spain	0.07	0.00	0.00
Abu Dhabi, UAE	0.28	0.08	0.06
Dubai, UAE	0.19	0.04	0.06

SOURCE: IEA's Progress in International Reading Literacy Study - PIRLS 2016

Relationship Between the PIRLS 2016 *Instruction Affected by Digital Resource Shortages* Scale and ePIRLS 2016 Online Informational Reading Achievement

Country	Pearson's Correlation with ePIRLS Achievement		Variance in ePIRLS Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Canada	0.05	0.00	0.00
Chinese Taipei	0.06	0.00	0.00
Denmark	0.02	0.00	0.00
Georgia	0.08	0.01	0.00
Ireland	0.10	0.01	0.01
Israel	0.25	0.06	0.04
Italy	0.02	0.00	0.00
Norway	0.06	0.00	0.00
Portugal	0.12	0.01	0.02
Singapore	-0.07	0.00	0.01
Slovenia	0.04	0.00	0.00
Sweden	0.14	0.02	0.02
United Arab Emirates	0.22	0.05	0.07
United States	-0.03	0.00	0.01
International Median	0.06	0.00	0.01
Benchmarking Participants			
Abu Dhabi, UAE	0.28	0.08	0.08
Dubai, UAE	0.09	0.01	0.03

Item Parameters for the PIRLS 2016 Instruction Affected by Reading Resource Shortages Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ACBG12AA	-0.24046	-0.50371	0.08908	0.41463	0.82
ACBG12AB	-0.61342	-0.65578	0.29517	0.36061	0.80
ACBG12AC	0.08419	-0.83453	0.08039	0.75414	0.99
ACBG12AD	-0.24529	-0.51694	0.09957	0.41737	0.89
ACBG12AE	0.10860	-0.60282	-0.03207	0.63489	0.96
ACBG12AF	0.21641	-1.33100	-0.06590	1.39690	0.93
ACBG12AG	0.13549	-1.21210	0.19877	1.01333	1.01
ACBG12AH	0.42199	-1.38470	0.07125	1.31345	1.11
ACBG12BA	-0.06206	-0.90262	-0.08571	0.98833	1.16
ACBG12BB	0.31635	-1.64938	-0.05748	1.70686	1.28
ACBG12BC	0.03715	-1.42224	0.02144	1.40080	0.92
ACBG12BD	-0.15895	-1.09436	0.07055	1.02381	0.75

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Scale Transformation Constants for the PIRLS 2016 Instruction Affected by Reading Resource Shortages Scale

Scale Transformation Constants	
A = 8.945066	Transformed Scale Score = 8.945066 + 1.274387 • Logit Scale Score
B = 1.274387	

**Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS
2016 Instruction Affected by Reading Resource Shortages Scale**

Raw Score	Transformed Scale Score	Cutpoint
0	3.54611	
1	4.98767	
2	5.67829	
3	6.14581	
4	6.50349	
5	6.79540	
6	7.04460	7.1
7	7.26319	
8	7.45917	
9	7.63803	
10	7.80296	
11	7.95892	
12	8.10685	
13	8.24846	
14	8.38527	
15	8.51855	
16	8.64954	
17	8.77923	
18	8.90734	
19	9.03876	
20	9.17049	
21	9.30484	
22	9.44284	
23	9.58565	
24	9.73450	
25	9.89005	
26	10.05541	
27	10.23239	
28	10.42394	
29	10.63402	
30	10.86810	10.8
31	11.13383	
32	11.44471	
33	11.82273	
34	12.31260	
35	13.02750	
36	14.49613	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Instruction Affected by Reading Resource Shortages Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item											
			ACBG12AA	ACBG12AB	ACBG12AC	ACBG12AD	ACBG12AE	ACBG12AF	ACBG12AG	ACBG12AH	ACBG12BA	ACBG12BB	ACBG12BC	ACBG12BD
Australia	0.93	57	0.76	0.77	0.76	0.69	0.69	0.73	0.78	0.75	0.71	0.75	0.81	0.84
Austria	0.80	33	0.45	0.44	0.64	0.33	0.62	0.48	0.66	0.69	0.32	0.69	0.66	0.67
Azerbaijan	0.91	50	0.71	0.71	0.72	0.77	0.75	0.70	0.56	0.68	0.69	0.64	0.74	0.77
Bahrain	0.96	70	0.89	0.88	0.83	0.89	0.91	0.81	0.86	0.77	0.76	0.67	0.88	0.89
Belgium (Flemish)	0.81	34	0.66	0.55	0.53	0.55	0.57	0.59	0.63	0.63	0.49	0.53	0.60	0.66
Belgium (French)	0.79	31	0.60	0.57	0.49	0.63	0.46	0.63	0.63	0.50	0.52	0.61	0.51	0.55
Bulgaria	0.82	43	0.85	0.74	0.68	0.88	0.77	0.44	0.39	0.35	0.83	-0.04	0.43	0.87
Canada	0.90	49	0.71	0.73	0.64	0.58	0.61	0.71	0.76	0.73	0.62	0.69	0.78	0.78
Chile	0.91	51	0.77	0.80	0.69	0.53	0.74	0.69	0.70	0.76	0.62	0.55	0.81	0.83
Chinese Taipei	0.94	60	0.78	0.73	0.80	0.88	0.82	0.85	0.85	0.79	0.59	0.47	0.79	0.85
Czech Republic	0.78	31	0.72	0.54	0.52	0.56	0.54	0.51	0.52	0.61	0.57	0.50	0.33	0.70
Denmark	0.85	40	0.66	0.58	0.66	0.59	0.52	0.51	0.66	0.54	0.59	0.69	0.68	0.79
Egypt	0.87	41	0.57	0.72	0.73	0.61	0.69	0.56	0.53	0.52	0.67	0.62	0.66	0.75
England	0.87	43	0.69	0.68	0.68	0.54	0.59	0.61	0.80	0.75	0.38	0.58	0.65	0.78
Finland	0.88	44	0.77	0.72	0.66	0.66	0.73	0.64	0.65	0.64	0.58	0.61	0.53	0.69
France	0.79	31	0.68	0.64	0.58	0.57	0.49	0.42	0.44	0.52	0.43	0.56	0.62	0.69
Georgia	0.88	45	0.69	0.78	0.68	0.72	0.70	0.59	0.51	0.76	0.61	0.57	0.66	0.69
Germany	0.88	43	0.70	0.70	0.62	0.45	0.61	0.67	0.65	0.65	0.61	0.69	0.71	0.73
Hong Kong SAR	0.85	38	0.54	0.51	0.74	0.67	0.80	0.72	0.67	0.58	0.53	0.38	0.55	0.62
Hungary	0.88	44	0.76	0.71	0.70	0.73	0.73	0.47	0.71	0.56	0.58	0.49	0.68	0.74
Iran, Islamic Rep. of	0.89	46	0.70	0.80	0.79	0.85	0.85	0.69	0.58	0.43	0.75	0.42	0.37	0.70
Ireland	0.85	39	0.73	0.72	0.51	0.52	0.46	0.63	0.59	0.56	0.63	0.54	0.73	0.77
Israel	0.95	64	0.87	0.85	0.79	0.87	0.73	0.86	0.69	0.66	0.84	0.72	0.79	0.87
Italy	0.85	39	0.53	0.64	0.64	0.52	0.61	0.65	0.61	0.65	0.51	0.57	0.74	0.74
Kazakhstan	0.95	65	0.85	0.76	0.81	0.89	0.84	0.85	0.68	0.65	0.84	0.77	0.86	0.87
Kuwait	0.91	51	0.81	0.81	0.59	0.82	0.80	0.76	0.65	0.67	0.58	0.50	0.70	0.77
Latvia	0.94	62	0.90	0.86	0.83	0.80	0.85	0.87	0.73	0.66	0.81	0.28	0.80	0.88
Lithuania	0.88	43	0.72	0.67	0.51	0.65	0.54	0.68	0.73	0.66	0.65	0.57	0.65	0.79
Macao SAR	0.90	51	0.80	0.69	0.69	0.79	0.78	0.85	0.76	0.81	0.14	0.00	0.87	0.74
Malta	0.92	54	0.88	0.87	0.63	0.51	0.69	0.68	0.87	0.75	0.55	0.62	0.80	0.86
Morocco	0.84	40	0.35	0.51	0.42	0.71	0.29	0.77	0.75	0.76	0.68	0.78	0.77	0.49
Netherlands	0.77	29	0.42	0.24	0.53	0.46	0.42	0.50	0.54	0.48	0.53	0.69	0.69	0.78
New Zealand	0.88	46	0.73	0.61	0.59	0.63	0.51	0.72	0.65	0.73	0.64	0.72	0.74	0.79
Northern Ireland	0.90	48	0.75	0.78	0.71	0.73	0.69	0.59	0.78	0.73	0.51	0.59	0.65	0.77
Norway (5)	0.86	40	0.67	0.62	0.62	0.62	0.67	0.62	0.63	0.58	0.57	0.71	0.59	0.64
Oman	0.94	60	0.83	0.78	0.76	0.82	0.85	0.84	0.73	0.71	0.79	0.59	0.70	0.82
Poland	0.85	40	0.68	0.71	0.60	0.57	0.66	0.56	0.65	0.73	0.61	0.43	0.65	0.67
Portugal	0.90	50	0.75	0.74	0.74	0.71	0.73	0.67	0.63	0.62	0.59	0.73	0.75	0.77
Qatar	0.98	81	0.92	0.91	0.90	0.92	0.91	0.94	0.94	0.91	0.90	0.76	0.83	0.93
Russian Federation	0.91	53	0.77	0.76	0.58	0.81	0.67	0.73	0.70	0.69	0.68	0.67	0.81	0.79
Saudi Arabia	0.86	41	0.60	-	0.69	0.68	0.72	0.77	0.58	0.59	0.72	0.58	0.43	0.66
Singapore	0.96	71	0.92	0.85	0.85	0.89	0.86	0.78	0.89	0.89	0.59	0.71	0.87	0.91
Slovak Republic	0.85	38	0.64	0.74	0.58	0.61	0.58	0.59	0.71	0.64	0.56	0.57	0.49	0.69
Slovenia	0.83	37	0.66	0.62	0.40	0.44	0.47	0.38	0.76	0.70	0.66	0.59	0.72	0.72
South Africa	0.81	38	-0.15	-0.30	0.29	0.58	0.16	0.64	0.86	0.88	0.75	0.86	0.77	0.39
Spain	0.90	48	0.73	0.73	0.69	0.72	0.79	0.65	0.72	0.65	0.58	0.48	0.69	0.80
Sweden	0.86	41	0.72	0.62	0.56	0.51	0.56	0.66	0.68	0.62	0.60	0.74	0.63	0.74
Trinidad and Tobago	0.86	39	0.54	0.43	0.67	0.65	0.64	0.52	0.59	0.60	0.67	0.65	0.73	0.75
United Arab Emirates	0.96	71	0.87	0.87	0.85	0.90	0.87	0.89	0.86	0.81	0.82	0.62	0.86	0.87
United States	0.93	56	0.80	0.82	0.80	0.76	0.74	0.74	0.73	0.67	0.58	0.70	0.81	0.82
Benchmarking Participants														
Buenos Aires, Argentina	0.90	48	0.71	0.63	0.71	0.68	0.78	0.71	0.65	0.66	0.60	0.70	0.68	0.78
Ontario, Canada	0.92	54	0.69	0.74	0.65	0.59	0.64	0.76	0.81	0.75	0.68	0.76	0.85	0.84
Quebec, Canada	0.91	51	0.81	0.81	0.68	0.63	0.76	0.64	0.63	0.70	0.64	0.70	0.87	0.77
Denmark (3)	0.84	37	0.64	0.52	0.67	0.55	0.49	0.52	0.64	0.55	0.56	0.64	0.66	0.76
Norway (4)	0.85	40	0.67	0.61	0.64	0.60	0.68	0.63	0.61	0.58	0.59	0.70	0.60	0.63
Moscow City, Russian Fed.	0.94	62	0.85	0.78	0.70	0.87	0.83	0.80	0.71	0.73	0.77	0.60	0.85	0.90
Eng/Afr/Zulu - RSA (5)	0.83	36	0.13	0.08	0.41	0.65	0.35	0.65	0.76	0.73	0.80	0.79	0.70	0.59
Andalusia, Spain	0.83	35	0.56	0.56	0.61	0.66	0.70	0.51	0.70	0.56	0.47	0.52	0.58	0.67
Madrid, Spain	0.88	45	0.70	0.71	0.63	0.62	0.60	0.70	0.69	0.71	0.60	0.65	0.69	0.71
Abu Dhabi, UAE	0.96	67	0.85	0.84	0.82	0.87	0.86	0.88	0.84	0.79	0.79	0.53	0.86	0.83
Dubai, UAE	0.98	78	0.90	0.90	0.88	0.91	0.86	0.89	0.92	0.87	0.85	0.78	0.90	0.93

A dash (-) indicates comparable data not available.

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 *Instruction Affected by Reading Resource Shortages* Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.13	0.02	0.02
Austria	0.04	0.00	0.01
Azerbaijan	-0.13	0.02	0.02
Bahrain	0.13	0.02	0.02
Belgium (Flemish)	-0.01	0.00	0.00
Belgium (French)	0.06	0.00	0.00
Bulgaria	0.15	0.02	0.02
Canada	0.00	0.00	0.00
Chile	0.12	0.01	0.02
Chinese Taipei	0.07	0.01	0.00
Czech Republic	-0.01	0.00	0.00
Denmark	0.06	0.00	0.00
Egypt	0.12	0.01	0.01
England	0.05	0.00	0.00
Finland	0.04	0.00	0.00
France	0.08	0.01	0.00
Georgia	0.11	0.01	0.01
Germany	0.12	0.01	0.02
Hong Kong SAR	0.11	0.01	0.01
Hungary	-0.01	0.00	0.00
Iran, Islamic Rep. of	0.11	0.01	0.02
Ireland	0.05	0.00	0.00
Israel	0.29	0.08	0.07
Italy	0.01	0.00	0.00
Kazakhstan	0.04	0.00	0.01
Kuwait	0.03	0.00	0.01
Latvia	-0.02	0.00	0.00
Lithuania	0.05	0.00	0.00
Macao SAR	-0.13	0.02	0.01
Malta	0.06	0.00	0.00
Morocco	-0.07	0.01	0.01
Netherlands	0.04	0.00	0.00
New Zealand	0.13	0.02	0.01
Northern Ireland	-0.01	0.00	0.00
Norway (5)	0.09	0.01	0.01
Oman	0.07	0.00	0.01
Poland	0.05	0.00	0.00
Portugal	0.15	0.02	0.01
Qatar	0.24	0.06	0.05
Russian Federation	0.09	0.01	0.00
Saudi Arabia	-0.13	0.02	0.01
Singapore	-0.06	0.00	0.01
Slovak Republic	0.01	0.00	0.00
Slovenia	0.03	0.00	0.00
South Africa	0.19	0.04	0.03
Spain	0.18	0.03	0.05
Sweden	0.13	0.02	0.02
Trinidad and Tobago	0.11	0.01	0.00
United Arab Emirates	0.28	0.08	0.09
United States	-0.04	0.00	0.02
International Median	0.06	0.01	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.19	0.03	0.03
Ontario, Canada	-0.02	0.00	0.00
Quebec, Canada	0.03	0.00	0.00
Denmark (3)	0.01	0.00	0.00
Norway (4)	0.09	0.01	0.00
Moscow City, Russian Fed.	-0.01	0.00	0.00
Eng/Afr/Zulu - RSA (5)	0.21	0.05	0.07
Andalusia, Spain	0.13	0.02	0.01
Madrid, Spain	0.08	0.01	0.01
Abu Dhabi, UAE	0.28	0.08	0.08
Dubai, UAE	0.23	0.05	0.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Parents Like Reading Scale

The *Parents Like Reading* (PLR) scale was created based on parents' responses to the nine items listed below.

Items in the PIRLS 2016 *Parents Like Reading* Scale

		Please indicate how much you agree with the following statements about reading.				
		Agree a lot	Agree a little	Disagree a little	Disagree a lot	
T	ASBH12A*	1) I read only if I have to*	○	○	○	○
T	ASBH12B	2) I like talking about what I read with other people	○	○	○	○
T	ASBH12C	3) I like to spend my spare time reading	○	○	○	○
T	ASBH12D*	4) I read only if I need information*	○	○	○	○
T	ASBH12E	5) Reading is an important activity in my home	○	○	○	○
T	ASBH12F	6) I would like to have more time for reading	○	○	○	○
T	ASBH12G	7) I enjoy reading	○	○	○	○
	ASBH12H	8) Reading is one of my favorite hobbies	○	○	○	○
T	ASBH11	When you are at home, how often do you read for your enjoyment?	○	○	○	○
		*reverse coded				

T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

Item Parameters for the PIRLS 2016 Parents Like Reading Scale

Items	delta	tau_1	tau_2	tau_3	Infit
* ASBH12A	0.44643	-0.55854	0.31019	0.24835	1.32
ASBH12B	-0.10611	-1.00923	-0.53256	1.54179	1.24
ASBH12C	0.06094	-0.99352	-0.30069	1.29421	0.81
* ASBH12D	0.69129	-0.76655	0.16445	0.60210	1.24
ASBH12E	-0.11197	-1.34252	-0.17347	1.51599	0.98
ASBH12F	-0.56903	-0.81012	-0.19368	1.00380	1.06
ASBH12G	-0.77034	-0.57881	-0.39616	0.97497	0.72
ASBH12H	0.15110	-0.96505	-0.17289	1.13794	0.81
ASBH11	0.20769	-0.67165	-0.49178	1.16343	1.13

* Reverse coded

Scale Transformation Constants for the PIRLS 2016 Parents Like Reading Scale

Scale Transformation Constants	
A = 8.166833	Transformed Scale Score = 8.166833 + 1.409138 • Logit Scale Score
B = 1.409138	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Parents Like Reading Scale

Raw Score	Transformed Scale Score	Cutpoint
0	2.72380	
1	4.25018	
2	4.97008	
3	5.45813	
4	5.84059	
5	6.16163	
6	6.44443	
7	6.70075	
8	6.94217	
9	7.17109	
10	7.39134	
11	7.60584	
12	7.81680	
13	8.02605	8.1
14	8.23505	
15	8.44528	
16	8.65831	
17	8.87608	
18	9.10113	
19	9.33684	
20	9.58564	
21	9.85661	
22	10.15845	
23	10.50626	10.5
24	10.92449	
25	11.46501	
26	12.25570	
27	13.87824	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Parents Like Reading Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item								
			ASBH12A*	ASBH12B	ASBH12C	ASBH12D*	ASBH12E	ASBH12F	ASBH12G	ASBH12H	ASBH12I
Australia	0.89	56	0.76	0.59	0.84	0.75	0.72	0.62	0.84	0.86	0.67
Austria	0.90	57	0.72	0.57	0.87	0.76	0.79	0.63	0.85	0.84	0.70
Azerbaijan	0.83	52	-	0.55	0.77	-	0.76	0.65	0.84	0.84	0.57
Bahrain	0.81	43	0.43	0.47	0.79	0.50	0.70	0.68	0.81	0.83	0.57
Belgium (Flemish)	0.90	57	0.75	0.50	0.87	0.75	0.75	0.67	0.88	0.86	0.70
Belgium (French)	0.90	55	0.70	0.52	0.85	0.72	0.72	0.71	0.86	0.86	0.70
Bulgaria	0.91	60	0.62	0.71	0.89	0.48	0.82	0.84	0.90	0.88	0.73
Canada	0.89	54	0.73	0.56	0.84	0.73	0.70	0.64	0.84	0.85	0.69
Chile	0.87	50	0.63	0.60	0.83	0.59	0.69	0.70	0.80	0.83	0.63
Chinese Taipei	0.86	49	0.57	0.48	0.77	0.54	0.76	0.77	0.86	0.86	0.56
Czech Republic	0.90	57	0.73	0.63	0.86	0.75	0.71	0.67	0.86	0.89	0.66
Denmark	0.90	57	0.74	0.60	0.88	0.78	0.76	0.60	0.85	0.83	0.70
Egypt	0.79	55	-0.25	0.78	0.83	-0.41	0.85	0.86	0.91	0.87	0.58
England	-	-	-	-	-	-	-	-	-	-	-
Finland	0.91	58	0.73	0.57	0.87	0.76	0.82	0.65	0.86	0.87	0.67
France	0.88	51	0.69	0.53	0.82	0.70	0.65	0.60	0.82	0.84	0.71
Georgia	0.78	43	0.24	0.56	0.81	0.26	0.68	0.75	0.85	0.81	0.61
Germany	0.89	54	0.75	0.57	0.87	0.66	0.70	0.61	0.86	0.85	0.68
Hong Kong SAR	0.85	48	0.46	0.52	0.78	0.41	0.75	0.78	0.87	0.87	0.61
Hungary	0.90	56	0.70	0.60	0.84	0.71	0.74	0.74	0.83	0.86	0.65
Iran, Islamic Rep. of	0.81	44	0.39	0.55	0.79	0.28	0.71	0.78	0.82	0.82	0.60
Ireland	0.88	53	0.74	0.55	0.83	0.74	0.69	0.57	0.84	0.86	0.69
Israel	0.85	47	0.65	0.50	0.81	0.65	0.68	0.57	0.79	0.84	0.62
Italy	0.88	52	0.69	0.55	0.82	0.69	0.70	0.67	0.81	0.83	0.67
Kazakhstan	0.72	39	0.11	0.51	0.74	0.20	0.70	0.73	0.77	0.82	0.60
Kuwait	0.84	47	0.52	0.49	0.80	0.58	0.75	0.70	0.81	0.84	0.54
Latvia	0.87	51	0.68	0.37	0.84	0.72	0.69	0.68	0.84	0.85	0.61
Lithuania	0.89	54	0.68	0.56	0.85	0.65	0.75	0.70	0.85	0.86	0.64
Macao SAR	0.83	46	0.38	0.56	0.76	0.35	0.76	0.78	0.87	0.87	0.55
Malta	0.86	49	0.68	0.49	0.82	0.72	0.57	0.64	0.82	0.86	0.62
Morocco	0.84	55	-0.04	0.81	0.86	-0.19	0.86	0.82	0.90	0.88	0.69
Netherlands	0.89	56	0.81	0.54	0.87	0.76	0.61	0.55	0.87	0.87	0.74
New Zealand	0.89	54	0.73	0.53	0.85	0.72	0.73	0.61	0.84	0.87	0.68
Northern Ireland	0.91	59	0.82	0.66	0.86	0.80	0.71	0.58	0.82	0.88	0.75
Norway (5)	0.89	53	0.73	0.52	0.85	0.74	0.74	0.60	0.83	0.83	0.66
Oman	0.78	41	0.24	0.55	0.77	0.34	0.69	0.69	0.80	0.81	0.58
Poland	0.88	53	0.70	0.61	0.83	0.71	0.75	0.62	0.81	0.80	0.67
Portugal	0.87	50	0.68	0.55	0.80	0.67	0.72	0.64	0.79	0.84	0.61
Qatar	0.81	43	0.44	0.44	0.79	0.46	0.70	0.68	0.82	0.83	0.54
Russian Federation	0.86	49	0.61	0.51	0.82	0.64	0.65	0.68	0.83	0.85	0.61
Saudi Arabia	0.82	44	0.38	0.55	0.79	0.34	0.74	0.69	0.83	0.83	0.61
Singapore	0.85	49	0.58	0.43	0.82	0.54	0.72	0.75	0.86	0.87	0.59
Slovak Republic	0.90	57	0.74	0.62	0.87	0.71	0.72	0.68	0.87	0.89	0.68
Slovenia	0.88	53	0.74	0.54	0.85	0.63	0.70	0.69	0.87	0.83	0.59
South Africa	0.75	41	0.03	0.66	0.76	0.05	0.70	0.71	0.82	0.80	0.61
Spain	0.89	54	0.71	0.59	0.83	0.73	0.67	0.67	0.83	0.85	0.70
Sweden	0.89	55	0.78	0.58	0.88	0.77	0.68	0.56	0.85	0.82	0.67
Trinidad and Tobago	0.82	44	0.63	0.53	0.80	0.63	0.60	0.45	0.79	0.83	0.57
United Arab Emirates	0.80	42	0.41	0.49	0.78	0.41	0.72	0.68	0.81	0.82	0.53
United States	-	-	-	-	-	-	-	-	-	-	-
Benchmarking Participants											
Buenos Aires, Argentina	0.84	46	0.62	0.51	0.82	0.62	0.62	0.66	0.78	0.83	0.57
Ontario, Canada	0.88	53	0.73	0.53	0.83	0.73	0.69	0.64	0.83	0.85	0.67
Quebec, Canada	0.90	55	0.74	0.63	0.85	0.72	0.70	0.62	0.84	0.85	0.70
Denmark (3)	0.89	55	0.74	0.58	0.87	0.77	0.75	0.61	0.84	0.82	0.66
Norway (4)	0.88	53	0.72	0.53	0.85	0.73	0.75	0.60	0.83	0.83	0.63
Moscow City, Russian Fed.	0.86	49	0.65	0.47	0.82	0.69	0.67	0.63	0.83	0.83	0.61
Eng/Afr/Zulu - RSA (5)	0.78	41	0.28	0.62	0.77	0.29	0.69	0.60	0.81	0.80	0.63
Andalusia, Spain	0.89	55	0.71	0.59	0.83	0.73	0.69	0.67	0.85	0.86	0.70
Madrid, Spain	0.87	51	0.69	0.55	0.82	0.74	0.68	0.58	0.81	0.85	0.65
Abu Dhabi, UAE	0.79	41	0.39	0.50	0.78	0.37	0.73	0.66	0.81	0.82	0.49
Dubai, UAE	0.82	44	0.54	0.44	0.78	0.56	0.71	0.66	0.81	0.82	0.57

A dash (-) indicates comparable data not available.
*Reverse coded

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Parents Like Reading Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.24	0.06	0.05
Austria	0.30	0.09	0.08
Azerbaijan	0.11	0.01	0.01
Bahrain	0.19	0.04	0.03
Belgium (Flemish)	0.23	0.05	0.05
Belgium (French)	0.28	0.08	0.08
Bulgaria	0.41	0.17	0.16
Canada	0.21	0.04	0.04
Chile	0.23	0.05	0.05
Chinese Taipei	0.19	0.04	0.04
Czech Republic	0.28	0.08	0.07
Denmark	0.21	0.04	0.04
Egypt	0.30	0.09	0.08
England	-	-	-
Finland	0.25	0.06	0.06
France	0.25	0.06	0.05
Georgia	0.20	0.04	0.04
Germany	0.35	0.12	0.11
Hong Kong SAR	0.09	0.01	0.01
Hungary	0.35	0.12	0.11
Iran, Islamic Rep. of	0.25	0.06	0.05
Ireland	0.26	0.07	0.05
Israel	0.18	0.03	0.03
Italy	0.22	0.05	0.04
Kazakhstan	0.09	0.01	0.01
Kuwait	0.17	0.03	0.02
Latvia	0.22	0.05	0.05
Lithuania	0.24	0.06	0.05
Macao SAR	0.13	0.02	0.01
Malta	0.14	0.02	0.02
Morocco	0.24	0.06	0.05
Netherlands	0.26	0.07	0.06
New Zealand	0.29	0.09	0.07
Northern Ireland	0.18	0.03	0.03
Norway (5)	0.25	0.06	0.05
Oman	0.20	0.04	0.03
Poland	0.21	0.05	0.04
Portugal	0.21	0.05	0.04
Qatar	0.21	0.05	0.04
Russian Federation	0.22	0.05	0.04
Saudi Arabia	0.14	0.02	0.02
Singapore	0.20	0.04	0.04
Slovak Republic	0.38	0.15	0.11
Slovenia	0.26	0.07	0.06
South Africa	0.17	0.03	0.03
Spain	0.20	0.04	0.04
Sweden	0.26	0.07	0.06
Trinidad and Tobago	0.12	0.02	0.02
United Arab Emirates	0.22	0.05	0.04
United States	-	-	-
International Median	0.22	0.05	0.04
Benchmarking Participants			
Buenos Aires, Argentina	0.24	0.06	0.06
Ontario, Canada	0.20	0.04	0.04
Quebec, Canada	0.17	0.03	0.03
Denmark (3)	0.18	0.03	0.03
Norway (4)	0.24	0.06	0.05
Moscow City, Russian Fed.	0.21	0.04	0.04
Eng/Afr/Zulu - RSA (5)	0.16	0.02	0.03
Andalusia, Spain	0.22	0.05	0.05
Madrid, Spain	0.18	0.03	0.03
Abu Dhabi, UAE	0.22	0.05	0.04
Dubai, UAE	0.23	0.05	0.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (–) indicates comparable data not available.

Parents' Perceptions of Their Child's School Scale

The *Parents' Perceptions of Their Child's School* (PCS) scale was created based on parents' responses to the six statements described below.

Items in the PIRLS 2016 *Parents' Perceptions of Their Child's School Scale*¹

		What do you think of your child's school?			
		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBH09A	1) My child's school does a good job including me in my child's education -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH09B	2) My child's school provides a safe environment -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH09C	3) My child's school cares about my child's progress in school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH09D	4) My child's school does a good job informing me of his/her progress -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH09E	5) My child's school promotes high academic standards -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBH09F	6) My child's school does a good job in helping him/her become better in reading -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Very Satisfied Somewhat Satisfied Less than Satisfied

9.5 6.3

¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories "Disagree a little" and "Disagree a lot" were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the PIRLS 2016 Parents' Perceptions of Their Child's School Scale

Item	delta	tau_1	tau_2	Infit
ASBH09A	0.08775	-1.64719	1.64719	1.02
ASBH09B	-0.56014	-1.57499	1.57499	1.22
ASBH09C	-0.46209	-1.61352	1.61352	0.82
ASBH09D	0.03829	-1.40332	1.40332	0.96
ASBH09E	0.90366	-1.57716	1.57716	1.14
ASBH09F	-0.00747	-1.46353	1.46353	1.00

Scale Transformation Constants for the PIRLS 2016 Parents' Perceptions of Their Child's School Scale

Scale Transformation Constants	
A = 7.908785	Transformed Scale Score = 7.908785 + 1.026352 • Logit Scale Score
B = 1.026352	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Parents' Perceptions of Their Child's School Scale

Raw Score	Transformed Scale Score	Cutpoint
0	3.57843	
1	4.89714	
2	5.63616	
3	6.23689	6.3
4	6.79025	
5	7.34568	
6	7.91434	
7	8.47752	
8	9.02158	
9	9.57101	9.5
10	10.16827	
11	10.92169	
12	12.26356	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Parents' Perceptions of Their Child's School Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item					
			ASBHU9A	ASBHU9B	ASBHU9C	ASBHU9D	ASBHU9E	ASBHU9F
Australia	0.88	63	0.83	0.60	0.87	0.84	0.80	0.80
Austria	0.86	59	0.79	0.62	0.83	0.83	0.75	0.78
Azerbaijan	0.83	55	0.68	0.76	0.80	0.72	0.72	0.75
Bahrain	0.87	60	0.77	0.70	0.82	0.79	0.80	0.76
Belgium (Flemish)	0.85	58	0.81	0.68	0.84	0.85	0.63	0.73
Belgium (French)	0.87	60	0.79	0.72	0.84	0.82	0.70	0.77
Bulgaria	0.87	62	0.75	0.75	0.83	0.80	0.80	0.79
Canada	0.88	62	0.82	0.61	0.85	0.84	0.80	0.78
Chile	0.89	64	0.80	0.72	0.86	0.84	0.79	0.79
Chinese Taipei	0.88	63	0.78	0.77	0.88	0.87	0.67	0.78
Czech Republic	0.85	58	0.72	0.62	0.83	0.81	0.77	0.78
Denmark	0.89	64	0.80	0.71	0.85	0.85	0.82	0.78
Egypt	0.87	62	0.79	0.75	0.83	0.80	0.75	0.79
England	-	-	-	-	-	-	-	-
Finland	0.82	53	0.74	0.64	0.83	0.76	0.63	0.73
France	0.88	63	0.79	0.72	0.85	0.82	0.80	0.78
Georgia	0.84	56	0.71	0.64	0.82	0.76	0.79	0.77
Germany	0.87	60	0.82	0.64	0.83	0.82	0.76	0.76
Hong Kong SAR	0.85	57	0.80	0.62	0.83	0.83	0.66	0.77
Hungary	0.86	58	0.78	0.66	0.81	0.80	0.75	0.78
Iran, Islamic Rep. of	0.83	55	0.73	0.68	0.80	0.79	0.66	0.77
Ireland	0.85	58	0.79	0.59	0.82	0.82	0.76	0.76
Israel	0.89	64	0.81	0.68	0.85	0.84	0.80	0.81
Italy	0.84	57	0.75	0.59	0.81	0.80	0.78	0.76
Kazakhstan	0.80	51	0.72	0.61	0.79	0.67	0.72	0.75
Kuwait	0.89	65	0.78	0.75	0.86	0.82	0.82	0.81
Latvia	0.84	55	0.64	0.66	0.83	0.71	0.83	0.78
Lithuania	0.81	52	0.69	0.69	0.81	0.73	0.67	0.73
Macao SAR	0.85	57	0.77	0.65	0.81	0.81	0.73	0.75
Malta	0.75	46	0.59	0.62	0.77	0.70	0.72	0.66
Morocco	0.82	53	0.74	0.68	0.80	0.72	0.65	0.79
Netherlands	0.83	56	0.80	0.67	0.85	0.84	0.53	0.74
New Zealand	0.88	62	0.82	0.62	0.85	0.83	0.79	0.81
Northern Ireland	0.86	61	0.83	0.63	0.85	0.81	0.77	0.77
Norway (5)	0.86	59	0.78	0.63	0.84	0.82	0.77	0.77
Oman	0.85	57	0.77	0.66	0.81	0.76	0.76	0.76
Poland	0.87	61	0.74	0.74	0.85	0.75	0.82	0.79
Portugal	0.85	59	0.79	0.66	0.84	0.77	0.77	0.76
Qatar	0.89	64	0.79	0.71	0.86	0.81	0.81	0.81
Russian Federation	0.86	59	0.63	0.71	0.83	0.75	0.85	0.83
Saudi Arabia	0.86	61	0.78	0.71	0.83	0.79	0.73	0.81
Singapore	0.86	60	0.79	0.66	0.84	0.81	0.76	0.76
Slovak Republic	0.87	61	0.73	0.66	0.85	0.81	0.83	0.80
Slovenia	0.84	56	0.69	0.68	0.82	0.82	0.72	0.76
South Africa	0.83	54	0.68	0.67	0.75	0.76	0.74	0.78
Spain	0.85	58	0.77	0.68	0.83	0.81	0.72	0.76
Sweden	0.90	67	0.81	0.74	0.87	0.83	0.84	0.80
Trinidad and Tobago	0.87	61	0.81	0.63	0.85	0.79	0.79	0.78
United Arab Emirates	0.89	64	0.80	0.70	0.85	0.83	0.83	0.79
United States	-	-	-	-	-	-	-	-
Benchmarking Participants								
Buenos Aires, Argentina	0.82	53	0.74	0.58	0.82	0.75	0.74	0.74
Ontario, Canada	0.88	62	0.82	0.59	0.85	0.83	0.82	0.78
Quebec, Canada	0.87	60	0.80	0.65	0.84	0.83	0.76	0.76
Denmark (3)	0.88	63	0.82	0.68	0.84	0.86	0.81	0.76
Norway (4)	0.86	60	0.79	0.65	0.83	0.81	0.79	0.75
Moscow City, Russian Fed.	0.84	56	0.54	0.69	0.82	0.73	0.85	0.82
Eng/Afr/Zulu - RSA (5)	0.84	56	0.74	0.64	0.79	0.78	0.77	0.77
Andalusia, Spain	0.85	59	0.78	0.67	0.83	0.80	0.72	0.78
Madrid, Spain	0.86	59	0.80	0.65	0.84	0.81	0.70	0.77
Abu Dhabi, UAE	0.90	67	0.80	0.72	0.87	0.85	0.85	0.80
Dubai, UAE	0.87	61	0.79	0.64	0.85	0.81	0.80	0.77

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 Parents' Perceptions of Their Child's School Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.02	0.00	0.00
Austria	-0.03	0.00	0.00
Azerbaijan	0.12	0.01	0.01
Bahrain	0.19	0.04	0.04
Belgium (Flemish)	-0.06	0.00	0.00
Belgium (French)	0.00	0.00	0.00
Bulgaria	-0.06	0.00	0.00
Canada	0.01	0.00	0.00
Chile	0.03	0.00	0.00
Chinese Taipei	-0.06	0.00	0.00
Czech Republic	-0.11	0.01	0.01
Denmark	0.07	0.01	0.01
Egypt	0.08	0.01	0.01
England	-	-	-
Finland	-0.02	0.00	0.00
France	-0.01	0.00	0.00
Georgia	0.01	0.00	0.00
Germany	0.06	0.00	0.01
Hong Kong SAR	0.11	0.01	0.01
Hungary	-0.01	0.00	0.00
Iran, Islamic Rep. of	-0.01	0.00	0.00
Ireland	0.01	0.00	0.00
Israel	-0.13	0.02	0.01
Italy	0.03	0.00	0.00
Kazakhstan	-0.02	0.00	0.00
Kuwait	0.12	0.02	0.01
Latvia	-0.04	0.00	0.00
Lithuania	0.02	0.00	0.00
Macao SAR	0.12	0.01	0.01
Malta	0.08	0.01	0.00
Morocco	0.23	0.05	0.04
Netherlands	0.06	0.00	0.01
New Zealand	0.02	0.00	0.00
Northern Ireland	0.07	0.00	0.01
Norway (5)	0.07	0.01	0.01
Oman	0.12	0.01	0.02
Poland	-0.06	0.00	0.00
Portugal	0.02	0.00	0.00
Qatar	0.13	0.02	0.02
Russian Federation	-0.02	0.00	0.00
Saudi Arabia	0.12	0.01	0.02
Singapore	0.06	0.00	0.00
Slovak Republic	-0.08	0.01	0.00
Slovenia	-0.08	0.01	0.01
South Africa	0.13	0.02	0.02
Spain	0.02	0.00	0.00
Sweden	0.05	0.00	0.01
Trinidad and Tobago	0.15	0.02	0.01
United Arab Emirates	0.17	0.03	0.03
United States	-	-	-
International Median	0.02	0.00	0.00
Benchmarking Participants			
Buenos Aires, Argentina	-0.02	0.00	0.00
Ontario, Canada	0.01	0.00	0.00
Quebec, Canada	-0.05	0.00	0.01
Denmark (3)	0.07	0.00	0.01
Norway (4)	-0.01	0.00	0.00
Moscow City, Russian Fed.	-0.03	0.00	0.00
Eng/Afr/Zulu - RSA (5)	0.12	0.02	0.01
Andalusia, Spain	-0.04	0.00	0.00
Madrid, Spain	0.04	0.00	0.00
Abu Dhabi, UAE	0.15	0.02	0.03
Dubai, UAE	0.18	0.03	0.03

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Safe and Orderly School Scale

The *Safe and Orderly School* (SOS) scale was created based on teachers' degree of agreement with the eight statements described below.

Items in the PIRLS 2016 *Safe and Orderly School* Scale¹

		Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.				
		Agree a lot	Agree a little	Disagree a little	Disagree a lot	
T	ATBG08A	1) This school is located in a safe neighborhood -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08B	2) I feel safe at this school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08C	3) This school's security policies and practices are sufficient -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08D	4) The students behave in an orderly manner -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08E	5) The students are respectful of the teachers -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08F	6) The students respect school property -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08G	7) This school has clear rules about student conduct -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	ATBG08H	8) This school's rules are enforced in a fair and consistent manner -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Very Safe and Orderly 9.9 Somewhat Safe and Orderly 6.6 Less than Safe and Orderly

¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories "Disagree a little" and "Disagree a lot" were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

Item Parameters for the PIRLS 2016 *Safe and Orderly School Scale*

Item	delta	tau_1	tau_2	Infit
ATBG08A	-0.33477	-0.95246	0.95246	1.44
ATBG08B	-1.33999	-1.18806	1.18806	1.00
ATBG08C	-0.43632	-1.32751	1.32751	1.11
ATBG08D	0.99788	-1.94721	1.94721	0.86
ATBG08E	0.46648	-1.96220	1.96220	0.88
ATBG08F	1.16567	-1.93026	1.93026	0.90
ATBG08G	-0.61716	-1.39812	1.39812	1.05
ATBG08H	0.09821	-1.55388	1.55388	1.06

Scale Transformation Constants for the PIRLS 2016 *Safe and Orderly School Scale*

Scale Transformation Constants	
A = 8.265816	Transformed Scale Score = 8.265816 + 1.015430 • Logit Scale Score
B = 1.015430	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 *Safe and Orderly School Scale*

Raw Score	Transformed Scale Score	Cutpoint
0	3.68014	
1	4.94412	
2	5.61774	
3	6.12515	
4	6.55836	6.6
5	6.95570	
6	7.33778	
7	7.71926	
8	8.10772	
9	8.51407	
10	8.94594	
11	9.41153	
12	9.92288	9.9
13	10.49280	
14	11.14276	
15	11.94193	
16	13.31150	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Safe and Orderly School Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			ATB6008A	ATB6008B	ATB6008C	ATB6008D	ATB6008E	ATB6008F	ATB6008G	ATB6008H
Australia	0.88	55	0.65	0.69	0.63	0.84	0.84	0.83	0.64	0.77
Austria	0.82	45	0.56	0.67	0.61	0.73	0.77	0.71	0.62	0.70
Azerbaijan	0.72	36	0.40	0.39	0.60	0.68	0.58	0.67	0.67	0.72
Bahrain	0.89	56	0.60	0.61	0.68	0.84	0.84	0.82	0.81	0.75
Belgium (Flemish)	0.83	46	0.61	0.52	0.62	0.74	0.74	0.73	0.73	0.68
Belgium (French)	0.85	50	0.65	0.65	0.66	0.81	0.76	0.76	0.62	0.71
Bulgaria	0.84	48	0.48	0.70	0.74	0.81	0.73	0.73	0.64	0.63
Canada	0.88	55	0.55	0.63	0.69	0.82	0.83	0.80	0.77	0.80
Chile	0.88	56	0.69	0.73	0.72	0.78	0.83	0.75	0.69	0.77
Chinese Taipei	0.86	51	0.53	0.71	0.77	0.78	0.79	0.73	0.71	0.64
Czech Republic	0.83	46	0.52	0.64	0.65	0.74	0.76	0.70	0.72	0.68
Denmark	0.86	51	0.65	0.47	0.68	0.83	0.77	0.80	0.71	0.74
Egypt	0.85	48	0.50	0.58	0.72	0.71	0.69	0.78	0.76	0.75
England	0.77	42	0.50	0.51	0.44	0.84	0.81	0.77	0.53	0.62
Finland	0.88	54	0.56	0.71	0.62	0.82	0.80	0.82	0.72	0.80
France	0.85	49	0.73	0.70	0.69	0.74	0.75	0.73	0.58	0.65
Georgia	0.71	33	0.48	0.55	0.64	0.65	0.64	0.68	0.47	0.46
Germany	0.84	49	0.71	0.57	0.49	0.80	0.78	0.79	0.66	0.71
Hong Kong SAR	0.84	48	0.54	0.67	0.63	0.70	0.77	0.76	0.76	0.70
Hungary	0.84	48	0.46	0.70	0.76	0.76	0.71	0.76	0.64	0.71
Iran, Islamic Rep. of	0.84	48	0.65	0.62	0.70	0.70	0.69	0.66	0.75	0.75
Ireland	0.86	52	0.46	0.61	0.70	0.85	0.84	0.72	0.74	0.76
Israel	0.88	55	0.62	0.71	0.70	0.83	0.75	0.73	0.78	0.81
Italy	0.84	48	0.62	0.70	0.66	0.71	0.70	0.75	0.70	0.68
Kazakhstan	0.74	39	0.59	0.44	0.61	0.66	0.71	0.69	0.69	0.55
Kuwait	0.81	44	0.20	0.43	0.46	0.79	0.85	0.79	0.69	0.81
Latvia	0.78	40	0.44	0.55	0.60	0.74	0.69	0.65	0.66	0.70
Lithuania	0.82	44	0.44	0.74	0.69	0.65	0.67	0.74	0.59	0.77
Macao SAR	0.84	48	0.56	0.58	0.58	0.78	0.77	0.75	0.76	0.68
Malta	0.88	54	0.47	0.69	0.78	0.82	0.80	0.81	0.69	0.77
Morocco	0.89	57	0.73	0.78	0.79	0.73	0.75	0.78	0.76	0.74
Netherlands	0.80	43	0.44	0.58	0.55	0.83	0.77	0.74	0.48	0.73
New Zealand	0.87	54	0.70	0.73	0.67	0.81	0.81	0.69	0.71	0.75
Northern Ireland	0.84	48	0.48	0.32	0.64	0.87	0.76	0.80	0.75	0.76
Norway (5)	0.83	46	0.45	0.48	0.58	0.77	0.79	0.77	0.76	0.70
Oman	0.82	45	0.51	0.53	0.68	0.73	0.71	0.68	0.70	0.76
Poland	0.80	43	0.39	0.54	0.48	0.79	0.81	0.74	0.67	0.70
Portugal	0.86	52	0.53	0.68	0.63	0.80	0.79	0.75	0.75	0.76
Qatar	0.83	48	0.43	0.52	0.60	0.75	0.79	0.82	0.78	0.74
Russian Federation	0.83	46	0.56	0.66	0.62	0.76	0.76	0.77	0.53	0.75
Saudi Arabia	0.84	48	0.52	0.62	0.68	0.77	0.70	0.78	0.73	0.72
Singapore	0.87	53	0.51	0.60	0.63	0.82	0.83	0.82	0.76	0.81
Slovak Republic	0.86	51	0.52	0.72	0.66	0.80	0.78	0.74	0.74	0.75
Slovenia	0.88	55	0.62	0.76	0.77	0.73	0.80	0.74	0.73	0.75
South Africa	0.87	54	0.66	0.78	0.66	0.83	0.81	0.78	0.61	0.69
Spain	0.86	52	0.57	0.65	0.71	0.79	0.82	0.80	0.64	0.75
Sweden	0.86	52	0.54	0.69	0.69	0.81	0.86	0.80	0.56	0.77
Trinidad and Tobago	0.89	57	0.68	0.77	0.76	0.86	0.85	0.84	0.57	0.69
United Arab Emirates	0.87	53	0.39	0.55	0.61	0.80	0.84	0.84	0.80	0.83
United States	0.90	58	0.71	0.72	0.76	0.84	0.85	0.88	0.64	0.67
Benchmarking Participants										
Buenos Aires, Argentina	0.87	54	0.51	0.76	0.72	0.79	0.78	0.80	0.72	0.74
Ontario, Canada	0.89	58	0.55	0.64	0.71	0.85	0.84	0.80	0.79	0.84
Quebec, Canada	0.82	45	0.53	0.49	0.61	0.78	0.77	0.73	0.70	0.70
Denmark (3)	0.83	45	0.41	0.33	0.54	0.83	0.81	0.79	0.72	0.76
Norway (4)	0.82	45	0.49	0.48	0.58	0.77	0.73	0.77	0.66	0.80
Moscow City, Russian Fed.	0.84	48	0.63	0.69	0.69	0.68	0.75	0.75	0.57	0.76
Eng/Afr/Zulu - RSA (5)	0.88	56	0.67	0.60	0.80	0.87	0.79	0.81	0.67	0.74
Andalusia, Spain	0.87	54	0.70	0.76	0.69	0.78	0.78	0.79	0.60	0.74
Madrid, Spain	0.85	49	0.61	0.65	0.74	0.82	0.78	0.82	0.51	0.62
Abu Dhabi, UAE	0.85	49	0.41	0.52	0.50	0.81	0.81	0.83	0.79	0.79
Dubai, UAE	0.87	54	0.41	0.51	0.65	0.83	0.85	0.85	0.78	0.83

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 *Safe and Orderly School* Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.21	0.04	0.02
Austria	0.10	0.01	0.01
Azerbaijan	0.08	0.01	0.00
Bahrain	0.24	0.06	0.04
Belgium (Flemish)	0.14	0.02	0.02
Belgium (French)	0.17	0.03	0.03
Bulgaria	0.23	0.05	0.05
Canada	0.09	0.01	0.01
Chile	0.20	0.04	0.06
Chinese Taipei	-0.03	0.00	0.01
Czech Republic	0.09	0.01	0.02
Denmark	0.09	0.01	0.01
Egypt	0.10	0.01	0.01
England	0.11	0.01	0.02
Finland	0.03	0.00	0.00
France	0.13	0.02	0.02
Georgia	0.08	0.01	0.00
Germany	0.25	0.06	0.07
Hong Kong SAR	0.04	0.00	0.00
Hungary	0.16	0.02	0.03
Iran, Islamic Rep. of	0.08	0.01	0.00
Ireland	0.11	0.01	0.01
Israel	0.06	0.00	0.01
Italy	0.09	0.01	0.01
Kazakhstan	-0.02	0.00	0.00
Kuwait	0.13	0.02	0.00
Latvia	0.04	0.00	0.00
Lithuania	0.09	0.01	0.03
Macao SAR	0.10	0.01	0.01
Malta	0.08	0.01	0.01
Morocco	0.26	0.07	0.06
Netherlands	0.18	0.03	0.04
New Zealand	0.21	0.05	0.04
Northern Ireland	0.09	0.01	0.01
Norway (5)	0.08	0.01	0.01
Oman	0.10	0.01	0.00
Poland	-0.04	0.00	0.00
Portugal	0.13	0.02	0.01
Qatar	0.07	0.00	0.00
Russian Federation	0.04	0.00	0.00
Saudi Arabia	0.17	0.03	0.02
Singapore	0.08	0.01	0.00
Slovak Republic	0.13	0.02	0.03
Slovenia	-0.01	0.00	0.00
South Africa	0.00	0.00	0.00
Spain	0.16	0.02	0.01
Sweden	0.16	0.03	0.03
Trinidad and Tobago	0.12	0.02	0.01
United Arab Emirates	0.26	0.07	0.06
United States	0.23	0.05	0.05
International Median	0.10	0.01	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.20	0.04	0.04
Ontario, Canada	0.11	0.01	0.02
Quebec, Canada	0.01	0.00	0.00
Denmark (3)	0.06	0.00	0.00
Norway (4)	0.01	0.00	0.00
Moscow City, Russian Fed.	0.02	0.00	0.00
Eng/Afr/Zulu - RSA (5)	0.03	0.00	0.01
Andalusia, Spain	0.22	0.05	0.04
Madrid, Spain	0.14	0.02	0.01
Abu Dhabi, UAE	0.19	0.04	0.03
Dubai, UAE	0.26	0.07	0.06

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

School Discipline Scale

The *School Discipline* (DAS) scale was created based on principals' responses concerning the ten potential school problems described below.

Items in the PIRLS 2016 *School Discipline* Scale

		To what degree is each of the following a problem among fourth grade students in your school?				
		Not a problem	Minor problem	Moderate problem	Serious problem	
T	ACBG14A	1) Arriving late at school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14B	2) Absenteeism (i.e., unjustified absences)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14C	3) Classroom disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14D	4) Cheating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14E	5) Profanity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14F	6) Vandalism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14G	7) Theft	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14H	8) Intimidation or verbal abuse among students (including texting, emailing, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14I	9) Physical fights among students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T	ACBG14J	10) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hardly Any Problems 9.9 Minor Problems 7.7 Moderate to Severe Problems

T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

Item Parameters for the PIRLS 2016 School Discipline Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ACBG14A	-0.12195	-2.34683	-0.42737	2.77420	1.24
ACBG14B	0.12937	-1.53131	-0.45652	1.98783	1.16
ACBG14C	0.91425	-2.22837	-0.27536	2.50373	1.02
ACBG14D	-0.39571	-1.01520	-0.90302	1.91822	1.08
ACBG14E	0.57429	-1.73047	-0.41827	2.14874	0.91
ACBG14F	-0.35555	-0.41221	-0.73370	1.14591	0.75
ACBG14G	-0.55939	0.41486	-1.38128	0.96642	0.84
ACBG14H	0.25527	-1.55859	-0.58526	2.14385	0.93
ACBG14I	0.33890	-1.63156	-0.63374	2.26530	0.84
ACBG14J	-0.77948	-0.03064	-0.67247	0.70311	0.86

Scale Transformation Constants for the PIRLS 2016 School Discipline Scale

Scale Transformation Constants	
A = 7.915470	Transformed Scale Score = 7.915470 + 0.941833 • Logit Scale Score
B = 0.941833	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 School Discipline Scale

Raw Score	Transformed Scale Score	Cutpoint
0	3.78131	
1	4.85875	
2	5.36727	
3	5.70447	
4	5.96046	
5	6.16894	
6	6.34794	
7	6.50757	
8	6.65426	
9	6.79253	
10	6.92445	
11	7.05592	
12	7.18729	
13	7.32077	
14	7.45855	
15	7.60360	7.7
16	7.75631	
17	7.92096	
18	8.09978	
19	8.29514	
20	8.51076	
21	8.74775	
22	9.00813	
23	9.29258	
24	9.60146	
25	9.93429	9.9
26	10.29556	
27	10.69797	
28	11.17296	
29	11.80710	
30	12.98539	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 School Discipline Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Components Loadings for Each Item									
			ACBG1A	ACBG1B	ACBG1C	ACBG1D	ACBG1E	ACBG1F	ACBG1G	ACBG1H	ACBG1I	ACBG1J
Australia	0.88	51	0.58	0.59	0.72	0.63	0.84	0.75	0.76	0.77	0.76	0.73
Austria	0.86	45	0.48	0.56	0.76	0.62	0.83	0.77	0.63	0.70	0.74	0.53
Azerbaijan	0.95	70	0.50	0.73	0.86	0.80	0.84	0.93	0.92	0.88	0.87	0.94
Bahrain	0.96	74	0.74	0.82	0.78	0.90	0.87	0.91	0.91	0.88	0.84	0.92
Belgium (Flemish)	0.86	46	0.51	0.58	0.72	0.68	0.77	0.74	0.61	0.72	0.74	0.68
Belgium (French)	0.85	43	0.51	0.64	0.54	0.55	0.73	0.65	0.69	0.79	0.78	0.65
Bulgaria	0.93	64	0.64	0.80	0.81	0.82	0.73	0.81	0.85	0.82	0.84	0.86
Canada	0.88	50	0.62	0.61	0.71	0.64	0.77	0.74	0.74	0.74	0.77	0.69
Chile	0.92	59	0.57	0.60	0.73	0.65	0.83	0.87	0.86	0.86	0.82	0.79
Chinese Taipei	0.88	50	0.61	0.63	0.68	0.68	0.82	0.74	0.76	0.77	0.74	0.59
Czech Republic	0.83	41	0.48	0.49	0.64	0.69	0.75	0.66	0.65	0.73	0.56	0.67
Denmark	0.82	40	0.59	0.53	0.70	0.45	0.77	0.58	0.49	0.79	0.77	0.54
Egypt	0.93	61	0.61	0.63	0.75	0.80	0.86	0.85	0.86	0.85	0.75	0.79
England	0.77	34	0.67	0.67	0.63	0.14	0.71	0.48	0.36	0.67	0.74	0.51
Finland	0.79	35	0.57	0.54	0.71	0.40	0.76	0.56	0.53	0.64	0.62	0.47
France	0.90	53	0.66	0.65	0.68	0.49	0.78	0.79	0.80	0.82	0.80	0.77
Georgia	0.97	76	0.64	0.80	0.90	0.69	0.93	0.95	0.95	0.94	0.91	0.95
Germany	0.89	50	0.62	0.67	0.73	0.60	0.73	0.76	0.66	0.78	0.82	0.63
Hong Kong SAR	0.80	37	0.50	0.57	0.65	0.59	0.73	0.68	0.73	0.61	0.67	0.21
Hungary	0.90	53	0.72	0.69	0.79	0.71	0.77	0.81	0.55	0.72	0.80	0.67
Iran, Islamic Rep. of	0.91	57	0.66	0.60	0.72	0.76	0.85	0.82	0.83	0.82	0.78	0.69
Ireland	0.85	46	0.59	0.60	0.70	0.53	0.70	0.68	0.61	0.74	0.82	0.73
Israel	0.96	72	0.71	0.82	0.76	0.89	0.80	0.94	0.89	0.86	0.89	0.92
Italy	0.94	66	0.61	0.75	0.64	0.73	0.69	0.92	0.92	0.92	0.91	0.91
Kazakhstan	0.95	70	0.79	0.80	0.80	0.58	0.83	0.93	0.92	0.88	0.89	0.88
Kuwait	0.91	58	0.49	0.58	0.71	0.79	0.84	0.86	0.84	0.81	0.87	0.76
Latvia	0.83	42	0.63	0.59	0.82	0.37	0.68	0.74	0.64	0.64	0.69	0.56
Lithuania	0.79	36	0.52	0.48	0.69	0.58	0.70	0.60	0.61	0.64	0.61	0.49
Macao SAR	0.73	31	0.72	0.47	0.65	0.28	0.70	0.28	0.76	0.45	0.72	0.03
Malta	0.93	61	0.56	0.77	0.61	0.82	0.83	0.85	0.85	0.86	0.80	0.82
Morocco	0.95	68	0.63	0.74	0.84	0.86	0.90	0.90	0.88	0.86	0.84	0.75
Netherlands	0.85	43	0.39	0.46	0.78	0.59	0.82	0.75	0.54	0.80	0.79	0.43
New Zealand	0.88	49	0.64	0.66	0.63	0.52	0.77	0.75	0.75	0.75	0.79	0.74
Northern Ireland	0.74	34	0.30	0.47	0.76	0.55	0.77	0.53	0.53	0.63	0.62	0.48
Norway (5)	0.85	45	0.60	0.67	0.68	0.65	0.72	0.69	0.49	0.70	0.68	0.77
Oman	0.96	74	0.73	0.81	0.83	0.93	0.89	0.91	0.92	0.90	0.76	0.89
Poland	0.81	38	0.50	0.54	0.57	0.63	0.73	0.65	0.57	0.65	0.71	0.55
Portugal	0.89	53	0.49	0.67	0.77	0.67	0.75	0.79	0.76	0.77	0.77	0.81
Qatar	0.92	61	0.62	0.68	0.73	0.85	0.82	0.82	0.79	0.81	0.80	0.85
Russian Federation	0.77	33	0.60	0.62	0.64	0.60	0.58	0.53	0.60	0.56	0.59	0.35
Saudi Arabia	0.95	70	0.53	0.73	0.81	0.88	0.90	0.90	0.91	0.91	0.88	0.84
Singapore	0.89	50	0.75	0.72	0.76	0.64	0.78	0.67	0.72	0.71	0.82	0.46
Slovak Republic	0.89	51	0.65	0.74	0.70	0.67	0.76	0.80	0.67	0.65	0.75	0.74
Slovenia	0.90	54	0.61	0.67	0.73	0.76	0.77	0.83	0.80	0.76	0.76	0.64
South Africa	0.90	51	0.67	0.72	0.69	0.67	0.72	0.79	0.78	0.72	0.75	0.65
Spain	0.94	69	0.67	0.84	0.77	0.80	0.76	0.91	0.92	0.87	0.86	0.89
Sweden	0.85	44	0.50	0.63	0.76	0.47	0.72	0.78	0.55	0.72	0.76	0.68
Trinidad and Tobago	0.90	54	0.58	0.68	0.58	0.67	0.82	0.85	0.85	0.79	0.83	0.62
United Arab Emirates	0.93	64	0.66	0.68	0.69	0.86	0.84	0.89	0.86	0.82	0.81	0.87
United States	0.87	47	0.59	0.65	0.69	0.61	0.78	0.70	0.68	0.71	0.78	0.66
Benchmarking Participants												
Buenos Aires, Argentina	0.86	49	0.46	0.58	0.65	0.69	0.75	0.80	0.79	0.73	0.77	0.69
Ontario, Canada	0.91	57	0.69	0.68	0.74	0.71	0.79	0.79	0.78	0.81	0.81	0.72
Quebec, Canada	0.83	43	0.58	0.58	0.73	0.35	0.74	0.74	0.72	0.69	0.74	0.58
Denmark (3)	0.84	43	0.60	0.55	0.68	0.51	0.78	0.67	0.49	0.77	0.75	0.65
Norway (4)	0.87	47	0.54	0.46	0.77	0.49	0.79	0.78	0.69	0.73	0.70	0.80
Moscow City, Russian Fed.	0.75	31	0.57	0.56	0.56	0.58	0.67	0.67	0.57	0.47	0.54	0.20
Eng/Afr/Zulu - RSA (5)	0.91	56	0.69	0.72	0.74	0.73	0.77	0.80	0.82	0.78	0.75	0.69
Andalusia, Spain	0.95	70	0.72	0.85	0.70	0.80	0.79	0.93	0.92	0.87	0.84	0.90
Madrid, Spain	0.88	55	0.48	0.51	0.71	0.80	0.74	0.84	0.81	0.77	0.81	0.82
Abu Dhabi, UAE	0.93	63	0.67	0.68	0.71	0.82	0.79	0.88	0.86	0.86	0.79	0.88
Dubai, UAE	0.94	67	0.56	0.73	0.72	0.89	0.87	0.89	0.87	0.85	0.82	0.89

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 School Discipline Scale and PIRLS 2016 Reading Achievement

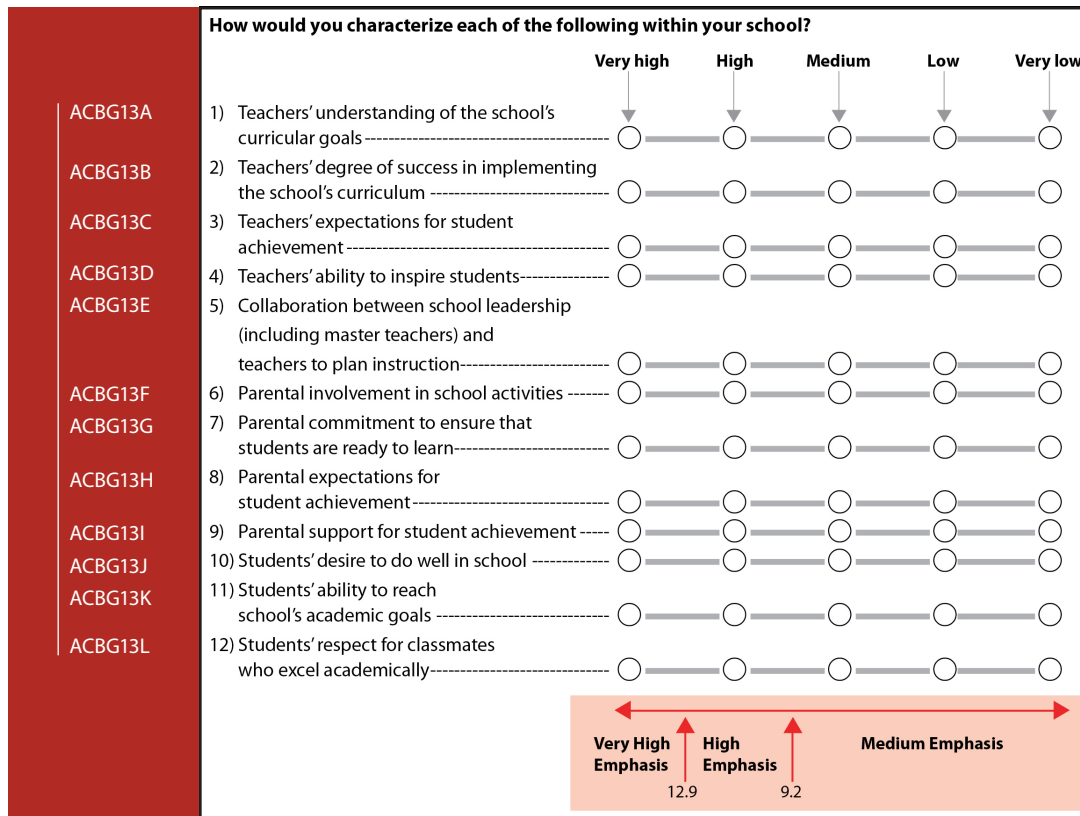
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.24	0.06	0.05
Austria	0.10	0.01	0.02
Azerbaijan	-0.06	0.00	0.01
Bahrain	0.18	0.03	0.02
Belgium (Flemish)	0.17	0.03	0.02
Belgium (French)	0.12	0.01	0.02
Bulgaria	0.13	0.02	0.02
Canada	0.16	0.03	0.02
Chile	0.20	0.04	0.05
Chinese Taipei	0.03	0.00	0.00
Czech Republic	0.04	0.00	0.00
Denmark	0.08	0.01	0.01
Egypt	0.13	0.02	0.01
England	0.15	0.02	0.01
Finland	0.06	0.00	0.00
France	0.10	0.01	0.01
Georgia	0.07	0.01	0.00
Germany	0.26	0.07	0.09
Hong Kong SAR	0.17	0.03	0.01
Hungary	0.25	0.06	0.04
Iran, Islamic Rep. of	0.22	0.05	0.05
Ireland	0.12	0.01	0.03
Israel	0.24	0.06	0.07
Italy	0.09	0.01	0.00
Kazakhstan	0.01	0.00	0.01
Kuwait	0.12	0.02	0.02
Latvia	0.08	0.01	0.01
Lithuania	0.04	0.00	0.00
Macao SAR	0.02	0.00	0.01
Malta	0.09	0.01	0.01
Morocco	0.04	0.00	0.00
Netherlands	0.12	0.01	0.02
New Zealand	0.23	0.05	0.06
Northern Ireland	0.14	0.02	0.00
Norway (5)	0.08	0.01	0.01
Oman	0.09	0.01	0.01
Poland	0.07	0.01	0.00
Portugal	0.17	0.03	0.02
Qatar	0.06	0.00	0.01
Russian Federation	0.03	0.00	0.00
Saudi Arabia	0.36	0.13	0.10
Singapore	0.12	0.01	0.01
Slovak Republic	0.16	0.03	0.08
Slovenia	0.01	0.00	0.00
South Africa	0.17	0.03	0.02
Spain	0.16	0.02	0.02
Sweden	0.13	0.02	0.02
Trinidad and Tobago	0.10	0.01	0.01
United Arab Emirates	0.24	0.06	0.03
United States	0.22	0.05	0.03
International Median	0.12	0.01	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.11	0.01	0.02
Ontario, Canada	0.16	0.03	0.03
Quebec, Canada	0.15	0.02	0.01
Denmark (3)	0.05	0.00	0.01
Norway (4)	0.06	0.00	0.00
Moscow City, Russian Fed.	-0.04	0.00	0.00
Eng/Afr/Zulu - RSA (5)	0.12	0.01	0.01
Andalusia, Spain	0.08	0.01	0.01
Madrid, Spain	0.11	0.01	0.02
Abu Dhabi, UAE	0.14	0.02	0.01
Dubai, UAE	0.26	0.07	0.04

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

School Emphasis on Academic Success – Principals’ Reports Scale

The *School Emphasis on Academic Success – Principals’ Reports* (EAS) scale was created based on principals’ responses characterizing the 12 aspects of school climate described below.

Items in the PIRLS 2016 *School Emphasis on Academic Success – Principals’ Reports* Scale¹



¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories “Low” and “Very low” were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the PIRLS 2016 School Emphasis on Academic Success - Principals' Reports Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ACBG13A	-1.31219	-3.35435	-0.01880	3.37315	1.07
ACBG13B	-0.96099	-3.90556	0.19733	3.70823	0.96
ACBG13C	-0.82391	-3.49024	0.00835	3.48189	0.89
ACBG13D	-0.59035	-3.43001	0.05756	3.37245	0.99
ACBG13E	-0.68959	-2.63930	-0.22702	2.86632	1.20
ACBG13F	1.15412	-2.48630	0.08282	2.40348	1.17
ACBG13G	1.42236	-2.80818	0.13531	2.67287	0.85
ACBG13H	0.00207	-2.69019	-0.24463	2.93482	1.09
ACBG13I	1.29200	-2.95076	0.10280	2.84796	0.91
ACBG13J	0.16604	-3.49673	0.03249	3.46424	0.87
ACBG13K	0.50539	-4.02618	0.21215	3.81403	0.87
ACBG13L	-0.16495	-3.14717	-0.20095	3.34812	1.14

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Scale Transformation Constants for the PIRLS 2016 School Emphasis on Academic Success - Principals' Reports Scale

Scale Transformation Constants	
A = 9.088617	Transformed Scale Score = 9.088617 + 1.147876 • Logit Scale Score
B = 1.147876	

**Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS
2016 School Emphasis on Academic Success - Principals' Reports Scale**

Raw Score	Transformed Scale Score	Cutpoint
0	1.06095	
1	2.49562	
2	3.26563	
3	3.84274	
4	4.33403	
5	4.77520	
6	5.18627	
7	5.57770	
8	5.95426	
9	6.31720	
10	6.66619	
11	7.00120	
12	7.32360	
13	7.63552	
14	7.93995	
15	8.24014	
16	8.53923	
17	8.83993	
18	9.14415	9.2
19	9.45276	
20	9.76546	
21	10.08096	
22	10.39737	
23	10.71295	
24	11.02647	
25	11.33774	
26	11.64774	
27	11.95831	
28	12.27223	
29	12.59338	
30	12.92713	12.9
31	13.28181	
32	13.66669	
33	14.10420	
34	14.63433	
35	15.35698	
36	16.74931	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 School Emphasis on Academic Success - Principals' Reports Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item											
			ACBG13A	ACBG13B	ACBG13C	ACBG13D	ACBG13E	ACBG13F	ACBG13G	ACBG13H	ACBG13I	ACBG13J	ACBG13K	ACBG13L
Australia	0.93	56	0.75	0.78	0.78	0.68	0.63	0.61	0.81	0.77	0.82	0.80	0.80	0.72
Austria	0.83	37	0.43	0.60	0.73	0.34	0.27	0.66	0.82	0.63	0.78	0.62	0.71	0.41
Azerbaijan	0.89	46	0.74	0.75	0.68	0.72	0.72	0.68	0.72	0.62	0.64	0.62	0.61	0.57
Bahrain	0.91	51	0.67	0.76	0.79	0.81	0.64	0.66	0.68	0.64	0.73	0.77	0.81	0.58
Belgium (Flemish)	0.83	36	0.41	0.52	0.47	0.41	0.34	0.67	0.82	0.65	0.81	0.58	0.68	0.64
Belgium (French)	0.84	38	0.52	0.61	0.49	0.55	0.41	0.66	0.77	0.65	0.77	0.68	0.70	0.53
Bulgaria	0.90	50	0.49	0.73	0.71	0.69	0.54	0.78	0.78	0.63	0.84	0.75	0.80	0.65
Canada	0.88	45	0.54	0.67	0.69	0.64	0.50	0.68	0.73	0.72	0.77	0.71	0.70	0.60
Chile	0.92	54	0.71	0.72	0.80	0.76	0.72	0.73	0.74	0.78	0.75	0.78	0.70	0.65
Chinese Taipei	0.89	46	0.58	0.52	0.74	0.73	0.57	0.61	0.72	0.68	0.68	0.80	0.81	0.64
Czech Republic	0.85	38	0.54	0.58	0.59	0.61	0.60	0.53	0.71	0.57	0.63	0.74	0.73	0.52
Denmark	0.91	50	0.73	0.68	0.75	0.61	0.54	0.55	0.82	0.72	0.71	0.83	0.74	0.75
Egypt	0.91	50	0.66	0.66	0.68	0.59	0.65	0.70	0.77	0.75	0.74	0.74	0.79	0.70
England	0.90	47	0.64	0.72	0.65	0.71	0.65	0.66	0.77	0.75	0.74	0.67	0.72	0.51
Finland	0.89	46	0.58	0.61	0.73	0.72	0.57	0.58	0.77	0.74	0.71	0.71	0.71	0.63
France	0.85	39	0.40	0.61	0.56	0.58	0.48	0.63	0.70	0.66	0.72	0.77	0.74	0.59
Georgia	0.87	41	0.68	0.69	0.66	0.66	0.61	0.61	0.68	0.65	0.71	0.61	0.53	0.54
Germany	0.84	38	0.52	0.60	0.66	0.49	0.40	0.63	0.78	0.58	0.73	0.64	0.70	0.55
Hong Kong SAR	0.87	42	0.64	0.66	0.62	0.65	0.62	0.65	0.67	0.61	0.68	0.71	0.73	0.47
Hungary	0.88	45	0.43	0.68	0.61	0.71	0.39	0.69	0.81	0.72	0.81	0.72	0.68	0.66
Iran, Islamic Rep. of	0.91	50	0.67	0.71	0.65	0.70	0.58	0.73	0.81	0.68	0.79	0.78	0.69	0.67
Ireland	0.89	47	0.58	0.62	0.75	0.63	0.40	0.58	0.82	0.81	0.81	0.81	0.72	0.54
Israel	0.86	41	0.71	0.71	0.69	0.67	0.66	0.50	0.66	0.60	0.67	0.69	0.60	0.46
Italy	0.86	40	0.63	0.69	0.55	0.77	0.70	0.51	0.64	0.52	0.62	0.71	0.59	0.56
Kazakhstan	0.90	49	0.56	0.66	0.67	0.74	0.69	0.67	0.79	0.64	0.77	0.71	0.77	0.66
Kuwait	0.92	54	0.71	0.74	0.78	0.77	0.61	0.66	0.76	0.70	0.65	0.82	0.81	0.74
Latvia	0.86	40	0.53	0.68	0.57	0.65	0.55	0.76	0.70	0.48	0.71	0.71	0.70	0.43
Lithuania	0.89	45	0.64	0.67	0.68	0.75	0.68	0.67	0.73	0.53	0.70	0.67	0.67	0.62
Macao SAR	0.79	32	0.51	0.61	0.60	0.71	0.40	0.49	0.70	0.55	0.52	0.71	0.50	0.41
Malta	0.88	44	0.63	0.74	0.71	0.65	0.59	0.61	0.71	0.73	0.73	0.66	0.67	0.47
Morocco	0.90	48	0.68	0.73	0.75	0.69	0.70	0.67	0.76	0.63	0.72	0.65	0.71	0.62
Netherlands	0.85	38	0.53	0.62	0.72	0.77	0.58	0.43	0.58	0.57	0.54	0.71	0.62	0.63
New Zealand	0.91	50	0.71	0.75	0.78	0.68	0.64	0.67	0.72	0.67	0.76	0.70	0.76	0.63
Northern Ireland	0.90	49	0.59	0.73	0.75	0.73	0.74	0.52	0.66	0.65	0.71	0.78	0.78	0.67
Norway (5)	0.90	49	0.67	0.79	0.74	0.71	0.63	0.72	0.76	0.66	0.74	0.58	0.74	0.62
Oman	0.88	44	0.62	0.66	0.69	0.71	0.63	0.61	0.76	0.64	0.69	0.69	0.68	0.59
Poland	0.87	42	0.60	0.66	0.47	0.67	0.57	0.65	0.77	0.70	0.71	0.67	0.66	0.57
Portugal	0.89	46	0.55	0.68	0.69	0.63	0.59	0.73	0.71	0.72	0.77	0.75	0.69	0.59
Qatar	0.89	47	0.64	0.69	0.75	0.74	0.60	0.68	0.79	0.63	0.71	0.62	0.71	0.61
Russian Federation	0.87	41	0.58	0.73	0.70	0.70	0.56	0.63	0.64	0.47	0.74	0.65	0.72	0.55
Saudi Arabia	0.92	53	0.68	0.74	0.68	0.75	0.74	0.68	0.75	0.71	0.76	0.80	0.75	0.71
Singapore	0.93	56	0.67	0.74	0.79	0.74	0.61	0.69	0.84	0.80	0.78	0.81	0.79	0.66
Slovak Republic	0.86	41	0.52	0.67	0.63	0.61	0.64	0.64	0.71	0.58	0.67	0.71	0.72	0.52
Slovenia	0.85	38	0.60	0.64	0.54	0.73	0.66	0.57	0.66	0.36	0.64	0.63	0.68	0.61
South Africa	0.90	49	0.62	0.58	0.67	0.65	0.69	0.70	0.75	0.64	0.77	0.77	0.80	0.69
Spain	0.90	48	0.61	0.74	0.77	0.64	0.57	0.67	0.80	0.78	0.79	0.67	0.66	0.54
Sweden	0.91	52	0.58	0.67	0.76	0.74	0.60	0.69	0.79	0.83	0.77	0.81	0.70	0.65
Trinidad and Tobago	0.90	49	0.57	0.63	0.67	0.65	0.58	0.77	0.79	0.64	0.76	0.79	0.79	0.68
United Arab Emirates	0.92	53	0.72	0.76	0.78	0.75	0.67	0.67	0.74	0.69	0.76	0.74	0.76	0.62
United States	0.93	56	0.67	0.73	0.72	0.77	0.59	0.76	0.82	0.81	0.81	0.81	0.79	0.69
Benchmarking Participants														
Buenos Aires, Argentina	0.90	50	0.69	0.78	0.66	0.63	0.58	0.71	0.81	0.73	0.80	0.76	0.76	0.50
Ontario, Canada	0.88	45	0.54	0.68	0.74	0.67	0.42	0.63	0.69	0.77	0.76	0.77	0.71	0.58
Quebec, Canada	0.88	43	0.68	0.69	0.58	0.70	0.64	0.73	0.70	0.65	0.75	0.55	0.61	0.55
Denmark (3)	0.90	50	0.73	0.67	0.75	0.61	0.54	0.56	0.82	0.72	0.73	0.83	0.73	0.73
Norway (4)	0.90	49	0.66	0.79	0.74	0.73	0.63	0.73	0.76	0.66	0.74	0.58	0.74	0.62
Moscow City, Russian Fed.	0.84	37	0.66	0.76	0.62	0.73	0.66	0.49	0.63	0.25	0.65	0.57	0.63	0.44
Eng/Afr/Zulu - RSA (5)	0.90	48	0.46	0.56	0.69	0.71	0.67	0.70	0.80	0.61	0.80	0.79	0.76	0.71
Andalusia, Spain	0.88	44	0.58	0.75	0.74	0.61	0.60	0.72	0.75	0.77	0.75	0.62	0.61	0.39
Madrid, Spain	0.91	52	0.61	0.69	0.76	0.67	0.61	0.73	0.83	0.84	0.83	0.71	0.75	0.62
Abu Dhabi, UAE	0.89	46	0.74	0.76	0.80	0.77	0.61	0.54	0.66	0.56	0.64	0.72	0.69	0.59
Dubai, UAE	0.93	57	0.73	0.76	0.83	0.78	0.72	0.74	0.72	0.74	0.77	0.76	0.79	0.69

SOURCE: IEA's Progress in International Reading Literacy Study - PIRLS 2016

Relationship Between the PIRLS 2016 School Emphasis on Academic Success - Principals' Reports Scale and PIRLS 2016 Reading Achievement

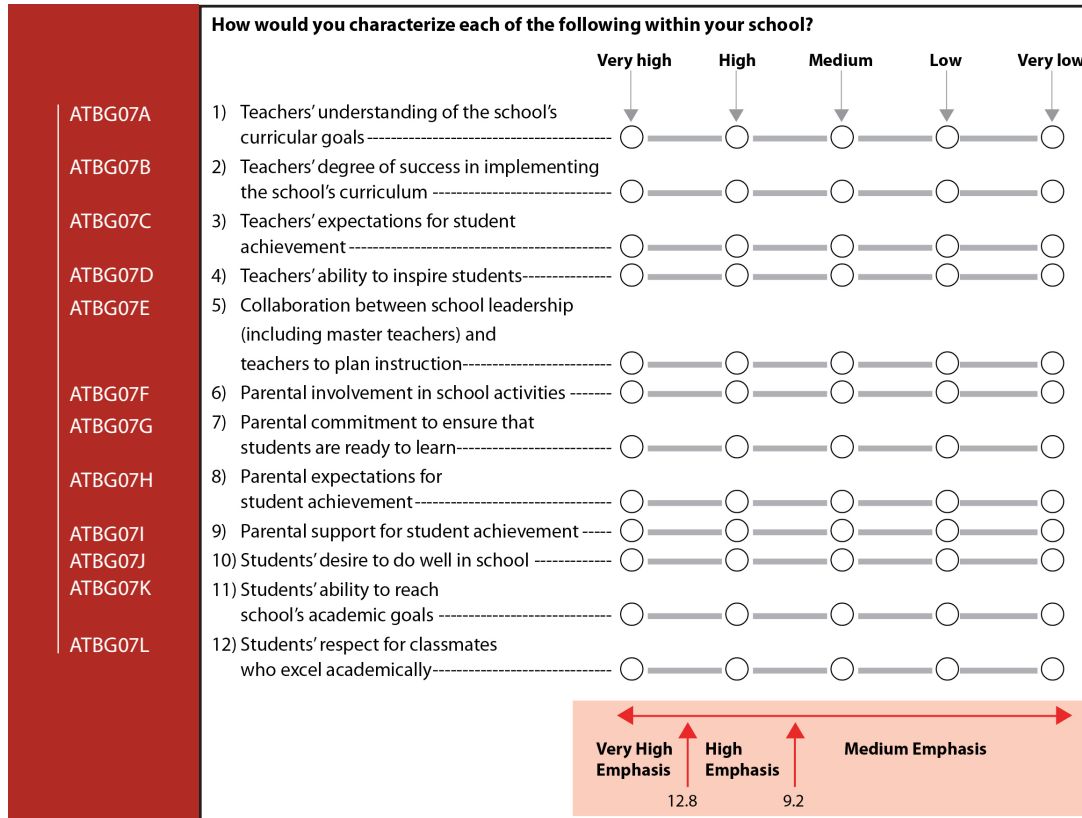
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.24	0.06	0.06
Austria	0.22	0.05	0.04
Azerbaijan	-0.04	0.00	0.02
Bahrain	0.29	0.08	0.06
Belgium (Flemish)	0.15	0.02	0.02
Belgium (French)	0.26	0.07	0.05
Bulgaria	0.35	0.12	0.08
Canada	0.20	0.04	0.04
Chile	0.22	0.05	0.03
Chinese Taipei	0.13	0.02	0.01
Czech Republic	0.12	0.01	0.00
Denmark	0.13	0.02	0.02
Egypt	0.22	0.05	0.03
England	0.18	0.03	0.02
Finland	0.09	0.01	0.01
France	0.05	0.00	0.00
Georgia	0.07	0.01	0.00
Germany	0.31	0.10	0.08
Hong Kong SAR	0.15	0.02	0.00
Hungary	0.29	0.09	0.04
Iran, Islamic Rep. of	0.21	0.04	0.03
Ireland	0.17	0.03	0.04
Israel	0.12	0.01	0.02
Italy	0.02	0.00	0.01
Kazakhstan	0.09	0.01	0.01
Kuwait	0.23	0.05	0.04
Latvia	0.16	0.03	0.02
Lithuania	0.26	0.07	0.07
Macao SAR	0.16	0.02	0.02
Malta	0.06	0.00	0.00
Morocco	0.34	0.11	0.12
Netherlands	0.12	0.01	0.01
New Zealand	0.18	0.03	0.03
Northern Ireland	0.10	0.01	0.00
Norway (5)	0.16	0.02	0.02
Oman	0.25	0.06	0.05
Poland	0.14	0.02	0.01
Portugal	0.26	0.07	0.05
Qatar	0.15	0.02	0.03
Russian Federation	0.18	0.03	0.04
Saudi Arabia	0.26	0.07	0.05
Singapore	0.19	0.04	0.03
Slovak Republic	0.30	0.09	0.04
Slovenia	0.08	0.01	0.00
South Africa	0.11	0.01	0.03
Spain	0.17	0.03	0.02
Sweden	0.20	0.04	0.03
Trinidad and Tobago	0.27	0.07	0.05
United Arab Emirates	0.30	0.09	0.08
United States	0.19	0.03	0.03
International Median	0.18	0.03	0.03
Benchmarking Participants			
Buenos Aires, Argentina	0.23	0.05	0.06
Ontario, Canada	0.17	0.03	0.03
Quebec, Canada	0.17	0.03	0.02
Denmark (3)	0.08	0.01	0.01
Norway (4)	0.11	0.01	0.01
Moscow City, Russian Fed.	0.09	0.01	0.02
Eng/Afr/Zulu - RSA (5)	0.19	0.04	0.03
Andalusia, Spain	0.20	0.04	0.02
Madrid, Spain	0.21	0.05	0.05
Abu Dhabi, UAE	0.20	0.04	0.04
Dubai, UAE	0.38	0.14	0.11

SOURCE: IEA's Progress in International Reading Literacy Study - PIRLS 2016

School Emphasis on Academic Success – Teachers’ Reports Scale

The *School Emphasis on Academic Success – Teachers’ Reports* (EAS) scale was created based on teachers’ responses characterizing the 12 aspects of school climate described below.

Items in the PIRLS 2016 *School Emphasis on Academic Success – Teachers’ Reports Scale*¹



¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories “Low” and “Very low” were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the PIRLS 2016 School Emphasis on Academic Success - Teachers' Reports Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ATBG07A	-1.32583	-2.86202	-0.08581	2.94783	1.08
ATBG07B	-0.93336	-3.25924	0.00909	3.25015	0.97
ATBG07C	-0.90529	-3.15010	-0.01642	3.16652	1.05
ATBG07D	-0.95737	-3.07196	-0.05710	3.12906	1.00
ATBG07E	-0.12321	-1.65307	-0.24929	1.90236	1.33
ATBG07F	0.99236	-2.17211	0.07001	2.10210	1.04
ATBG07G	1.25870	-2.51430	0.14423	2.37007	0.85
ATBG07H	0.10750	-2.38394	-0.24263	2.62657	1.05
ATBG07I	1.12745	-2.70509	0.13541	2.56968	0.86
ATBG07J	0.20474	-2.87243	-0.04754	2.91997	0.91
ATBG07K	0.68915	-3.39428	0.15216	3.24212	0.85
ATBG07L	-0.13484	-2.38835	-0.40389	2.79224	1.12

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Scale Transformation Constants for the PIRLS 2016 School Emphasis on Academic Success - Teachers' Reports Scale

Scale Transformation Constants	
A = 9.085861	Transformed Scale Score = 9.085861 + 1.287929 • Logit Scale Score
B = 1.287929	

**Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS
2016 School Emphasis on Academic Success - Teachers' Reports Scale**

Raw Score	Transformed Scale Score	Cutpoint
1	2.31036	
2	3.17847	
3	3.83356	
4	4.38451	
5	4.87013	
6	5.30628	
7	5.70360	
8	6.06975	
9	6.41275	
10	6.73719	
11	7.04747	
12	7.34668	
13	7.64101	
14	7.93095	
15	8.22006	
16	8.51056	
17	8.80401	
18	9.10134	9.2
19	9.40263	
20	9.70726	
21	10.01421	
22	10.32239	
23	10.63104	
24	10.93982	
25	11.24966	
26	11.56193	
27	11.87884	
28	12.20341	
29	12.53973	
30	12.89347	12.8
31	13.27297	
32	13.69227	
33	14.16929	
34	14.75380	
35	15.55747	
36	17.11436	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 School Emphasis on Academic Success - Teachers' Reports Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item											
			ATB607A	ATB607B	ATB607C	ATB607D	ATB607E	ATB607F	ATB607G	ATB607H	ATB607I	ATB607J	ATB607K	ATB607L
Australia	0.90	48	0.56	0.63	0.70	0.56	0.44	0.69	0.84	0.79	0.80	0.77	0.76	0.67
Austria	0.82	36	0.40	0.59	0.55	0.48	0.45	0.72	0.81	0.56	0.76	0.63	0.72	0.34
Azerbaijan	0.86	39	0.58	0.66	0.63	0.60	0.66	0.71	0.70	0.63	0.66	0.48	0.66	0.50
Bahrain	0.91	52	0.56	0.68	0.73	0.71	0.61	0.76	0.80	0.72	0.82	0.73	0.79	0.71
Belgium (Flemish)	0.79	31	0.36	0.47	0.59	0.48	0.55	0.50	0.74	0.51	0.74	0.56	0.65	0.42
Belgium (French)	0.82	36	0.45	0.50	0.48	0.49	0.39	0.63	0.75	0.60	0.75	0.70	0.74	0.56
Bulgaria	0.91	49	0.52	0.65	0.73	0.65	0.63	0.74	0.78	0.70	0.78	0.76	0.78	0.60
Canada	0.88	45	0.54	0.60	0.65	0.63	0.48	0.68	0.80	0.72	0.80	0.73	0.77	0.53
Chile	0.77	32	-0.20	-0.21	-0.24	-0.18	-0.18	0.66	0.84	0.74	0.78	0.70	0.69	0.59
Chinese Taipei	0.83	35	0.51	0.42	0.48	0.52	0.48	0.67	0.77	0.65	0.72	0.69	0.63	0.45
Czech Republic	0.86	41	0.58	0.70	0.65	0.61	0.57	0.63	0.66	0.57	0.67	0.68	0.74	0.56
Denmark	0.87	41	0.60	0.55	0.66	0.52	0.51	0.67	0.77	0.56	0.77	0.72	0.70	0.60
Egypt	0.90	48	0.62	0.67	0.63	0.57	0.62	0.74	0.82	0.74	0.79	0.74	0.78	0.57
England	0.89	47	0.62	0.63	0.62	0.59	0.55	0.68	0.82	0.75	0.77	0.73	0.78	0.63
Finland	0.82	35	0.39	0.42	0.63	0.56	0.40	0.64	0.67	0.70	0.73	0.69	0.64	0.50
France	0.83	38	0.34	0.59	0.47	0.42	0.37	0.68	0.83	0.64	0.80	0.73	0.76	0.46
Georgia	0.88	43	0.66	0.70	0.62	0.55	0.63	0.69	0.73	0.61	0.81	0.69	0.58	0.57
Germany	0.83	36	0.41	0.53	0.57	0.54	0.43	0.61	0.79	0.62	0.79	0.61	0.73	0.47
Hong Kong SAR	0.87	42	0.52	0.56	0.51	0.63	0.54	0.70	0.71	0.68	0.74	0.78	0.77	0.57
Hungary	0.91	50	0.57	0.69	0.67	0.64	0.42	0.75	0.83	0.76	0.80	0.76	0.77	0.72
Iran, Islamic Rep. of	0.91	49	0.72	0.73	0.60	0.73	0.71	0.78	0.78	0.63	0.76	0.70	0.71	0.54
Ireland	0.90	48	0.47	0.64	0.74	0.60	0.49	0.69	0.84	0.78	0.85	0.80	0.74	0.55
Israel	0.89	47	0.70	0.74	0.65	0.61	0.64	0.55	0.67	0.68	0.74	0.78	0.76	0.67
Italy	0.88	44	0.69	0.66	0.71	0.72	0.69	0.64	0.78	0.45	0.73	0.64	0.69	0.49
Kazakhstan	0.90	47	0.59	0.70	0.67	0.69	0.66	0.60	0.70	0.68	0.74	0.69	0.79	0.72
Kuwait	0.91	51	0.64	0.66	0.68	0.74	0.66	0.69	0.83	0.63	0.77	0.77	0.81	0.69
Latvia	0.86	40	0.67	0.71	0.55	0.67	0.72	0.64	0.66	0.45	0.70	0.58	0.65	0.46
Lithuania	0.83	36	0.48	0.69	0.68	0.62	0.49	0.55	0.69	0.73	0.64	0.55	0.61	0.40
Macao SAR	0.90	49	0.62	0.73	0.67	0.76	0.74	0.70	0.71	0.70	0.70	0.71	0.75	0.63
Malta	0.85	40	0.61	0.64	0.64	0.59	0.44	0.42	0.66	0.73	0.73	0.73	0.71	0.58
Morocco	0.91	50	0.58	0.66	0.67	0.70	0.70	0.72	0.79	0.70	0.74	0.74	0.81	0.65
Netherlands	0.78	30	0.32	0.38	0.54	0.51	0.39	0.52	0.69	0.62	0.75	0.61	0.63	0.47
New Zealand	0.89	47	0.61	0.64	0.65	0.56	0.56	0.73	0.77	0.70	0.79	0.73	0.75	0.68
Northern Ireland	0.88	44	0.71	0.74	0.68	0.57	0.61	0.64	0.67	0.54	0.67	0.78	0.76	0.54
Norway (5)	0.87	42	0.49	0.67	0.60	0.60	0.56	0.68	0.78	0.63	0.75	0.73	0.70	0.55
Oman	0.91	49	0.61	0.64	0.73	0.62	0.62	0.75	0.79	0.75	0.75	0.72	0.73	0.69
Poland	0.89	47	0.47	0.62	0.65	0.59	0.65	0.73	0.80	0.64	0.81	0.73	0.75	0.67
Portugal	0.90	48	0.64	0.71	0.72	0.64	0.57	0.75	0.80	0.76	0.80	0.70	0.71	0.48
Qatar	0.89	47	0.66	0.70	0.71	0.74	0.60	0.68	0.73	0.58	0.69	0.70	0.77	0.62
Russian Federation	0.86	41	0.66	0.69	0.60	0.65	0.49	0.70	0.73	0.48	0.71	0.68	0.69	0.51
Saudi Arabia	0.91	51	0.69	0.69	0.51	0.76	0.61	0.73	0.79	0.74	0.81	0.72	0.77	0.69
Singapore	0.90	48	0.62	0.64	0.63	0.67	0.60	0.70	0.82	0.66	0.77	0.76	0.78	0.62
Slovak Republic	0.88	44	0.56	0.64	0.65	0.59	0.54	0.69	0.74	0.59	0.75	0.75	0.78	0.62
Slovenia	0.78	30	0.57	0.62	0.54	0.64	0.66	0.55	0.60	0.36	0.52	0.38	0.57	0.46
South Africa	0.92	50	0.53	0.63	0.60	0.59	0.54	0.76	0.80	0.74	0.84	0.81	0.83	0.74
Spain	0.87	42	0.54	0.66	0.64	0.53	0.50	0.71	0.82	0.76	0.76	0.63	0.67	0.51
Sweden	0.85	40	0.46	0.51	0.63	0.62	0.50	0.71	0.77	0.72	0.75	0.74	0.62	0.44
Trinidad and Tobago	0.91	52	0.53	0.63	0.64	0.69	0.67	0.79	0.85	0.72	0.84	0.80	0.76	0.64
United Arab Emirates	0.91	52	0.67	0.70	0.69	0.71	0.66	0.72	0.80	0.67	0.81	0.77	0.81	0.64
United States	0.89	47	0.41	0.58	0.55	0.59	0.45	0.78	0.86	0.82	0.84	0.72	0.73	0.69
Benchmarking Participants														
Buenos Aires, Argentina	0.89	46	0.46	0.65	0.60	0.59	0.58	0.74	0.82	0.74	0.79	0.73	0.80	0.52
Ontario, Canada	0.90	50	0.57	0.67	0.67	0.69	0.46	0.73	0.82	0.78	0.84	0.75	0.84	0.59
Quebec, Canada	0.82	35	0.48	0.49	0.66	0.47	0.39	0.59	0.77	0.69	0.77	0.65	0.68	0.28
Denmark (3)	0.88	44	0.55	0.62	0.65	0.52	0.50	0.64	0.75	0.74	0.78	0.79	0.75	0.59
Norway (4)	0.88	44	0.63	0.73	0.60	0.68	0.56	0.60	0.70	0.69	0.77	0.66	0.70	0.61
Moscow City, Russian Fed.	0.81	34	0.57	0.55	0.67	0.49	0.59	0.64	0.61	0.45	0.64	0.61	0.71	0.36
Eng/Afr/Zulu - RSA (5)	0.92	52	0.60	0.64	0.56	0.69	0.64	0.85	0.85	0.51	0.86	0.84	0.76	0.75
Andalusia, Spain	0.90	48	0.55	0.77	0.71	0.54	0.54	0.71	0.86	0.79	0.83	0.69	0.71	0.51
Madrid, Spain	0.87	45	0.55	0.61	0.76	0.51	0.29	0.78	0.82	0.77	0.82	0.70	0.73	0.53
Abu Dhabi, UAE	0.91	53	0.73	0.74	0.72	0.71	0.64	0.66	0.79	0.68	0.85	0.80	0.80	0.57
Dubai, UAE	0.94	59	0.73	0.75	0.77	0.75	0.68	0.81	0.81	0.67	0.83	0.81	0.84	0.71

SOURCE: IEA's Progress in International Reading Literacy Study - PIRLS 2016

Relationship Between the PIRLS 2016 School Emphasis on Academic Success - Teachers' Reports Scale and PIRLS 2016 Reading Achievement

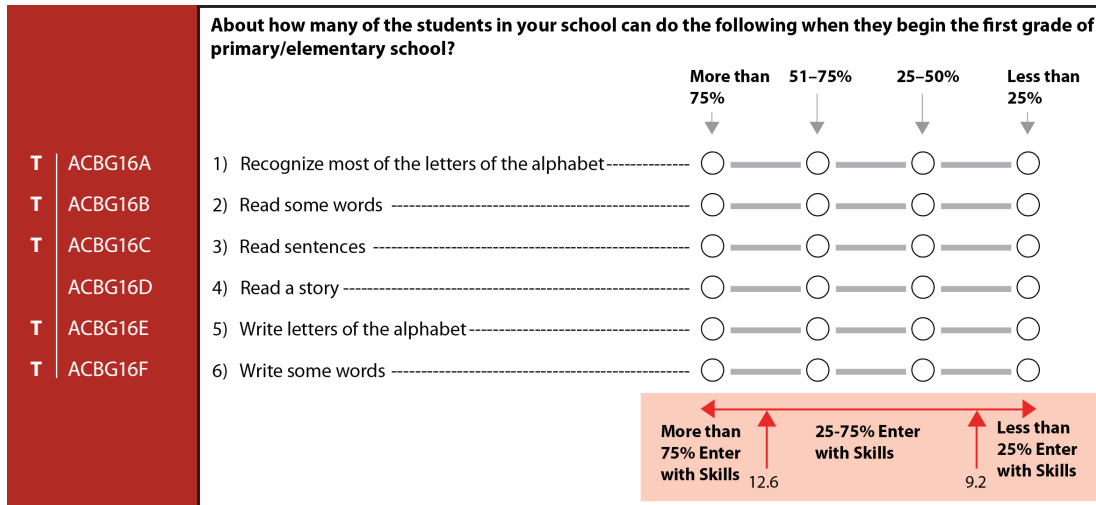
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.25	0.06	0.05
Austria	0.22	0.05	0.04
Azerbaijan	0.12	0.01	0.01
Bahrain	0.25	0.06	0.05
Belgium (Flemish)	0.16	0.03	0.01
Belgium (French)	0.24	0.06	0.05
Bulgaria	0.34	0.11	0.08
Canada	0.12	0.01	0.01
Chile	-0.01	0.00	0.00
Chinese Taipei	0.05	0.00	0.00
Czech Republic	0.11	0.01	0.01
Denmark	0.11	0.01	0.01
Egypt	0.25	0.06	0.04
England	0.09	0.01	0.01
Finland	0.09	0.01	0.01
France	0.14	0.02	0.02
Georgia	0.13	0.02	0.01
Germany	0.31	0.10	0.08
Hong Kong SAR	0.03	0.00	0.00
Hungary	0.31	0.09	0.06
Iran, Islamic Rep. of	0.11	0.01	0.01
Ireland	0.19	0.03	0.03
Israel	0.12	0.01	0.01
Italy	0.04	0.00	0.00
Kazakhstan	-0.02	0.00	0.00
Kuwait	0.10	0.01	0.01
Latvia	0.13	0.02	0.01
Lithuania	0.19	0.04	0.03
Macao SAR	0.10	0.01	0.02
Malta	0.13	0.02	0.02
Morocco	0.29	0.09	0.09
Netherlands	0.12	0.01	0.01
New Zealand	0.17	0.03	0.03
Northern Ireland	0.11	0.01	0.01
Norway (5)	0.15	0.02	0.02
Oman	0.14	0.02	0.02
Poland	0.06	0.00	0.00
Portugal	0.17	0.03	0.02
Qatar	0.08	0.01	0.01
Russian Federation	0.16	0.03	0.04
Saudi Arabia	0.21	0.04	0.04
Singapore	0.21	0.05	0.04
Slovak Republic	0.27	0.07	0.04
Slovenia	0.04	0.00	0.00
South Africa	0.03	0.00	0.00
Spain	0.13	0.02	0.02
Sweden	0.14	0.02	0.01
Trinidad and Tobago	0.19	0.03	0.04
United Arab Emirates	0.23	0.05	0.05
United States	0.23	0.05	0.06
International Median	0.14	0.02	0.02
Benchmarking Participants			
Buenos Aires, Argentina	0.20	0.04	0.04
Ontario, Canada	0.14	0.02	0.02
Quebec, Canada	0.13	0.02	0.01
Denmark (3)	0.13	0.02	0.01
Norway (4)	0.10	0.01	0.01
Moscow City, Russian Fed.	0.12	0.01	0.02
Eng/Afr/Zulu - RSA (5)	0.05	0.00	0.01
Andalusia, Spain	0.19	0.04	0.03
Madrid, Spain	0.19	0.04	0.03
Abu Dhabi, UAE	0.16	0.02	0.03
Dubai, UAE	0.26	0.07	0.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Schools Where Students Enter the Primary Grades with Early Literacy Skills Scale

The *Schools Where Students Enter the Primary Grades with Early Literacy Skills* (ELS) scale was created based on principals' responses about the percentage of children in the school who began first grade with the six key skills described below.

Items in the PIRLS 2016 *Schools Where Students Enter the Primary Grades with Early Literacy Skills* Scale



T Trend item—item was included in the same scale in PIRLS 2011 and was used for linking the PIRLS 2011 and PIRLS 2016 scales.

Item Parameters for the PIRLS 2016 Schools Where Students Enter the Primary Grades with Early Literacy Skills Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ACBG16A	-1.78233	-1.97973	0.20099	1.77874	1.50
ACBG16B	-0.57140	-2.07581	0.12065	1.95516	0.90
ACBG16C	1.30316	-1.75400	-0.13912	1.89312	0.93
ACBG16D	2.41057	-1.45499	-0.37070	1.82569	1.19
ACBG16E	-1.31646	-2.29289	0.42674	1.86615	1.31
ACBG16F	-0.04354	-1.97416	0.16291	1.81125	1.08

Scale Transformation Constants for the PIRLS 2016 Schools Where Students Enter the Primary Grades with Early Literacy Skills Scale

Scale Transformation Constants

A = 10.926395

B = 0.700871

Transformed Scale Score = 10.926395 + 0.700871 • Logit Scale Score

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Schools Where Students Enter the Primary Grades with Early Literacy Skills Scale

Raw Score	Transformed Scale Score	Cutpoint
0	7.11411	
1	8.08353	
2	8.66466	
3	9.13106	9.2
4	9.52767	
5	9.87200	
6	10.17733	
7	10.45638	
8	10.71757	
9	10.96860	
10	11.21588	
11	11.46487	
12	11.72126	
13	11.99312	
14	12.29199	
15	12.64157	12.6
16	13.08630	
17	13.70842	
18	14.76593	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Schools Where Students Enter the Primary Grades with Early Literacy Skills Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item					
			ACBG16A	ACBG16B	ACBG16C	ACBG16D	ACBG16E	ACBG16F
Australia	0.94	77	0.87	0.92	0.91	0.77	0.89	0.90
Austria	0.94	78	0.90	0.88	0.94	0.91	0.77	0.88
Azerbaijan	0.95	79	0.84	0.92	0.92	0.83	0.91	0.90
Bahrain	0.94	77	0.82	0.94	0.91	0.73	0.89	0.94
Belgium (Flemish)	0.86	62	0.73	0.83	0.82	0.82	0.69	0.82
Belgium (French)	0.83	53	0.74	0.86	0.68	0.50	0.76	0.78
Bulgaria	0.92	72	0.80	0.91	0.91	0.78	0.82	0.87
Canada	0.93	75	0.83	0.92	0.88	0.77	0.88	0.90
Chile	0.96	84	0.89	0.94	0.93	0.88	0.91	0.93
Chinese Taipei	0.94	78	0.84	0.93	0.92	0.89	0.88	0.85
Czech Republic	0.78	51	0.77	0.73	0.57	0.51	0.85	0.80
Denmark	0.88	64	0.83	0.88	0.82	0.69	0.77	0.79
Egypt	0.93	74	0.89	0.92	0.88	0.63	0.90	0.92
England	0.97	86	0.93	0.95	0.93	0.85	0.94	0.95
Finland	0.86	59	0.67	0.83	0.88	0.74	0.66	0.79
France	0.82	54	0.71	0.79	0.72	0.61	0.75	0.81
Georgia	0.95	80	0.83	0.90	0.94	0.86	0.91	0.94
Germany	0.78	52	0.76	0.83	0.62	0.52	0.76	0.78
Hong Kong SAR	0.95	80	0.88	0.93	0.94	0.91	0.88	0.81
Hungary	0.92	75	0.88	0.92	0.93	0.76	0.80	0.91
Iran, Islamic Rep. of	0.95	81	0.86	0.94	0.94	0.83	0.89	0.93
Ireland	0.87	70	0.78	0.86	0.87	0.65	0.92	0.91
Israel	0.91	70	0.73	0.89	0.88	0.83	0.81	0.88
Italy	0.92	72	0.79	0.90	0.88	0.78	0.85	0.89
Kazakhstan	0.90	68	0.76	0.88	0.90	0.82	0.78	0.81
Kuwait	0.95	81	0.86	0.94	0.94	0.81	0.91	0.93
Latvia	0.90	68	0.68	0.87	0.90	0.82	0.84	0.84
Lithuania	0.89	65	0.71	0.88	0.87	0.76	0.77	0.84
Macao SAR	0.93	76	0.85	0.85	0.92	0.83	0.91	0.86
Malta	0.90	69	0.74	0.90	0.88	0.73	0.82	0.88
Morocco	0.95	82	0.92	0.96	0.91	0.75	0.94	0.94
Netherlands	0.86	61	0.66	0.86	0.81	0.68	0.80	0.84
New Zealand	0.93	79	0.85	0.93	0.92	0.85	0.89	-
Northern Ireland	0.96	86	0.94	0.97	0.96	0.77	0.93	0.96
Norway (5)	0.86	61	0.82	0.87	0.78	0.54	0.81	0.81
Oman	0.90	68	0.73	0.91	0.88	0.68	0.82	0.90
Poland	0.93	75	0.80	0.90	0.92	0.74	0.90	0.91
Portugal	0.92	74	0.82	0.92	0.89	0.85	0.79	0.87
Qatar	0.96	84	0.87	0.95	0.93	0.85	0.92	0.95
Russian Federation	0.91	69	0.73	0.87	0.89	0.84	0.78	0.83
Saudi Arabia	0.93	74	0.83	0.93	0.92	0.66	0.86	0.92
Singapore	0.95	82	0.89	0.96	0.91	0.84	0.93	0.91
Slovak Republic	0.84	58	0.85	0.86	0.70	0.56	0.82	0.73
Slovenia	0.86	61	0.78	0.89	0.75	0.61	0.80	0.83
South Africa	0.93	75	0.76	0.88	0.90	0.86	0.88	0.91
Spain	0.90	70	0.82	0.90	0.88	0.74	0.79	0.88
Sweden	0.88	63	0.76	0.84	0.88	0.73	0.70	0.84
Trinidad and Tobago	0.92	72	0.81	0.90	0.87	0.74	0.87	0.88
United Arab Emirates	0.95	81	0.89	0.96	0.92	0.77	0.91	0.94
United States	0.97	87	0.91	0.96	0.94	0.89	0.95	0.95
Benchmarking Participants								
Buenos Aires, Argentina	0.90	66	0.81	0.90	0.83	0.62	0.83	0.84
Ontario, Canada	0.94	78	0.88	0.92	0.88	0.81	0.88	0.92
Quebec, Canada	0.89	65	0.78	0.91	0.82	0.58	0.86	0.86
Denmark (3)	0.88	63	0.82	0.88	0.82	0.69	0.77	0.78
Norway (4)	0.86	60	0.82	0.87	0.78	0.51	0.81	0.81
Moscow City, Russian Fed.	0.88	63	0.78	0.89	0.85	0.78	0.68	0.74
Eng/Afr/Zulu - RSA (5)	0.92	73	0.73	0.87	0.90	0.86	0.87	0.88
Andalusia, Spain	0.89	69	0.83	0.87	0.88	0.75	0.79	0.88
Madrid, Spain	0.81	58	0.73	0.82	0.85	0.77	0.66	0.73
Abu Dhabi, UAE	0.95	80	0.90	0.95	0.91	0.76	0.90	0.94
Dubai, UAE	0.95	81	0.90	0.96	0.92	0.74	0.93	0.95

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 Schools Where Students Enter the Primary Grades with Early Literacy Skills Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.12	0.01	0.01
Austria	0.12	0.01	0.01
Azerbaijan	0.08	0.01	0.00
Bahrain	0.19	0.04	0.03
Belgium (Flemish)	0.05	0.00	0.00
Belgium (French)	0.12	0.01	0.02
Bulgaria	0.32	0.10	0.10
Canada	0.16	0.03	0.04
Chile	0.26	0.07	0.07
Chinese Taipei	0.05	0.00	0.02
Czech Republic	0.09	0.01	0.00
Denmark	0.09	0.01	0.01
Egypt	0.11	0.01	0.01
England	0.10	0.01	0.01
Finland	0.05	0.00	0.00
France	0.07	0.00	0.02
Georgia	0.07	0.00	0.00
Germany	0.17	0.03	0.01
Hong Kong SAR	0.09	0.01	0.02
Hungary	0.09	0.01	0.01
Iran, Islamic Rep. of	-0.06	0.00	0.01
Ireland	0.08	0.01	0.00
Israel	0.07	0.00	0.04
Italy	0.04	0.00	0.00
Kazakhstan	0.10	0.01	0.01
Kuwait	0.12	0.01	0.01
Latvia	0.08	0.01	0.01
Lithuania	0.15	0.02	0.01
Macao SAR	0.01	0.00	0.01
Malta	0.02	0.00	0.00
Morocco	0.26	0.07	0.06
Netherlands	0.07	0.00	0.01
New Zealand	0.17	0.03	0.05
Northern Ireland	0.12	0.01	0.02
Norway (5)	0.04	0.00	0.00
Oman	0.11	0.01	0.02
Poland	-0.02	0.00	0.00
Portugal	0.06	0.00	0.01
Qatar	0.20	0.04	0.04
Russian Federation	0.23	0.05	0.04
Saudi Arabia	0.01	0.00	0.01
Singapore	0.09	0.01	0.02
Slovak Republic	0.18	0.03	0.01
Slovenia	0.07	0.00	0.00
South Africa	-0.02	0.00	0.00
Spain	0.15	0.02	0.02
Sweden	0.18	0.03	0.02
Trinidad and Tobago	0.26	0.07	0.04
United Arab Emirates	0.34	0.12	0.11
United States	0.19	0.04	0.03
International Median	0.09	0.01	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.27	0.07	0.06
Ontario, Canada	0.15	0.02	0.01
Quebec, Canada	0.07	0.01	0.00
Denmark (3)	0.06	0.00	0.00
Norway (4)	0.09	0.01	0.01
Moscow City, Russian Fed.	0.18	0.03	0.03
Eng/Afr/Zulu - RSA (5)	0.07	0.00	0.03
Andalusia, Spain	0.14	0.02	0.02
Madrid, Spain	0.14	0.02	0.02
Abu Dhabi, UAE	0.26	0.07	0.06
Dubai, UAE	0.32	0.10	0.09

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Student Bullying Scale

The *Student Bullying* (SB) scale was created based on students' responses to how often they experienced the eight bullying behaviors described below.

Items in the PIRLS 2016 *Student Bullying* Scale

During this school year, how often have other students from your school done any of the following things to you (including through texting or the Internet)?

	Never	A few times a year	Once or twice a month	At least once a week
ASBG13A 1) Made fun of me or called me names-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13B 2) Left me out of their games or activities-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13C 3) Spread lies about me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13D 4) Stole something from me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13E 5) Hit or hurt me (e.g., shoving, hitting, kicking)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13F 6) Made me do things I didn't want to do-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13G 7) Shared embarrassing information about me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13H 8) Threatened me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Almost Never About Monthly About Weekly

9.5 7.9

Item Parameters for the PIRLS 2016 Student Bullying Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBG13A	0.47927	0.27533	-0.38571	0.11038	1.05
ASBG13B	0.28864	-0.00106	-0.07440	0.07546	1.16
ASBG13C	0.17327	0.02052	-0.09847	0.07795	0.96
ASBG13D	-0.31380	0.27095	-0.16042	-0.11053	1.12
ASBG13E	0.17865	0.00530	-0.18154	0.17624	1.02
ASBG13F	-0.30137	0.21016	0.06970	-0.27986	0.99
ASBG13G	-0.19155	0.16906	-0.08285	-0.08621	0.94
ASBG13H	-0.31311	0.37439	0.00776	-0.38215	0.94

Scale Transformation Constants for the PIRLS 2016 Student Bullying Scale

Scale Transformation Constants	
A = 7.902851	Transformed Scale Score = 7.902851 + 1.812747 • Logit Scale Score
B = 1.812747	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Student Bullying Scale

Raw Score	Transformed Scale Score	Cutpoint
0	3.27794	
1	4.83400	
2	5.48907	
3	5.91604	
4	6.24033	
5	6.50472	
6	6.74041	
7	6.95212	
8	7.14715	
9	7.33106	
10	7.50803	
11	7.68141	
12	7.84988	7.9
13	8.02779	
14	8.20567	
15	8.39019	
16	8.58463	
17	8.79311	
18	9.02099	
19	9.27097	
20	9.56469	9.5
21	9.92468	
22	10.40216	
23	11.14752	
24	12.92197	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Student Bullying Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			ASB613A	ASB613B	ASB613C	ASB613D	ASB613E	ASB613F	ASB613G	ASB613H
Australia	0.86	50	0.72	0.68	0.75	0.64	0.72	0.68	0.73	0.72
Austria	0.82	45	0.69	0.65	0.73	0.57	0.69	0.67	0.69	0.67
Azerbaijan	0.80	43	0.63	0.60	0.69	0.62	0.66	0.69	0.75	0.63
Bahrain	0.84	46	0.63	0.65	0.73	0.64	0.70	0.68	0.69	0.71
Belgium (Flemish)	0.84	47	0.72	0.68	0.74	0.53	0.72	0.67	0.70	0.67
Belgium (French)	0.83	45	0.69	0.61	0.72	0.60	0.70	0.66	0.70	0.72
Bulgaria	0.81	44	0.66	0.53	0.74	0.52	0.73	0.67	0.73	0.70
Canada	0.85	49	0.71	0.66	0.75	0.62	0.72	0.68	0.72	0.72
Chile	0.84	49	0.69	0.69	0.72	0.64	0.74	0.74	0.66	0.73
Chinese Taipei	0.84	47	0.72	0.69	0.73	0.51	0.69	0.67	0.76	0.71
Czech Republic	0.82	44	0.72	0.55	0.73	0.58	0.66	0.66	0.75	0.65
Denmark	0.84	48	0.70	0.68	0.74	0.54	0.72	0.71	0.71	0.72
Egypt	0.84	49	0.66	0.65	0.73	0.66	0.72	0.74	0.74	0.67
England	0.85	49	0.73	0.68	0.77	0.56	0.72	0.68	0.71	0.73
Finland	0.84	48	0.73	0.67	0.75	0.54	0.72	0.67	0.74	0.71
France	0.80	43	0.68	0.61	0.72	0.53	0.67	0.62	0.68	0.69
Georgia	0.82	47	0.69	0.57	0.73	0.66	0.69	0.72	0.72	0.72
Germany	0.82	45	0.65	0.64	0.72	0.56	0.71	0.67	0.71	0.67
Hong Kong SAR	0.83	46	0.65	0.65	0.76	0.54	0.66	0.74	0.63	0.74
Hungary	0.79	41	0.64	0.64	0.69	0.52	0.65	0.64	0.67	0.67
Iran, Islamic Rep. of	0.82	45	0.66	0.57	0.72	0.62	0.71	0.66	0.71	0.72
Ireland	0.84	47	0.71	0.67	0.75	0.58	0.69	0.66	0.70	0.70
Israel	-	-	-	-	-	-	-	-	-	-
Italy	0.81	42	0.69	0.63	0.70	0.54	0.64	0.63	0.70	0.65
Kazakhstan	0.81	45	0.65	0.58	0.72	0.62	0.69	0.65	0.74	0.68
Kuwait	0.77	39	0.61	0.62	0.64	0.56	0.64	0.61	0.67	0.63
Latvia	0.84	47	0.73	0.61	0.76	0.54	0.74	0.66	0.75	0.69
Lithuania	0.81	44	0.69	0.59	0.72	0.57	0.68	0.64	0.71	0.68
Macao SAR	0.78	40	0.57	0.59	0.71	0.55	0.63	0.68	0.58	0.71
Malta	0.86	50	0.72	0.66	0.76	0.64	0.71	0.72	0.74	0.73
Morocco	0.80	41	0.61	0.62	0.69	0.60	0.66	0.63	0.68	0.66
Netherlands	0.83	46	0.73	0.69	0.73	0.54	0.70	0.67	0.68	0.68
New Zealand	0.87	52	0.73	0.70	0.76	0.66	0.73	0.71	0.76	0.71
Northern Ireland	0.83	47	0.73	0.68	0.74	0.57	0.69	0.66	0.70	0.69
Norway (5)	0.84	48	0.74	0.69	0.76	0.52	0.70	0.68	0.72	0.71
Oman	0.82	44	0.64	0.57	0.70	0.65	0.68	0.67	0.71	0.67
Poland	0.85	50	0.70	0.69	0.76	0.58	0.72	0.69	0.79	0.73
Portugal	0.83	46	0.69	0.62	0.73	0.56	0.74	0.65	0.70	0.71
Qatar	0.85	49	0.67	0.61	0.73	0.67	0.72	0.73	0.74	0.73
Russian Federation	0.79	42	0.69	0.44	0.72	0.50	0.72	0.61	0.76	0.66
Saudi Arabia	0.87	53	0.68	0.66	0.74	0.67	0.75	0.75	0.78	0.75
Singapore	0.83	47	0.65	0.65	0.73	0.59	0.70	0.68	0.72	0.72
Slovak Republic	0.82	46	0.70	0.59	0.74	0.55	0.68	0.68	0.73	0.71
Slovenia	0.84	47	0.71	0.63	0.77	0.57	0.69	0.66	0.76	0.69
South Africa	0.79	40	0.60	0.58	0.65	0.56	0.65	0.68	0.68	0.64
Spain	0.82	44	0.66	0.63	0.71	0.55	0.69	0.67	0.65	0.71
Sweden	0.84	48	0.71	0.67	0.77	0.59	0.71	0.68	0.70	0.71
Trinidad and Tobago	0.80	42	0.63	0.56	0.69	0.60	0.70	0.59	0.72	0.66
United Arab Emirates	0.84	47	0.65	0.62	0.72	0.66	0.72	0.71	0.71	0.72
United States	0.85	49	0.72	0.65	0.76	0.66	0.70	0.65	0.73	0.72
Benchmarking Participants										
Buenos Aires, Argentina	0.81	47	0.66	0.66	0.74	0.61	0.70	-	0.72	0.70
Ontario, Canada	0.85	49	0.70	0.67	0.76	0.63	0.72	0.69	0.71	0.71
Quebec, Canada	0.84	47	0.74	0.63	0.74	0.55	0.70	0.64	0.74	0.73
Denmark (3)	0.83	47	0.69	0.63	0.73	0.52	0.71	0.69	0.70	0.76
Norway (4)	0.85	48	0.72	0.67	0.76	0.56	0.71	0.70	0.71	0.73
Moscow City, Russian Fed.	0.83	46	0.73	0.51	0.73	0.57	0.73	0.66	0.77	0.70
Enq/Afr/Zulu - RSA (5)	0.78	39	0.59	0.55	0.65	0.52	0.67	0.66	0.69	0.67
Andalusia, Spain	0.80	42	0.64	0.62	0.70	0.54	0.71	0.65	0.64	0.69
Madrid, Spain	0.80	42	0.65	0.65	0.69	0.51	0.67	0.65	0.64	0.70
Abu Dhabi, UAE	0.85	48	0.64	0.62	0.72	0.66	0.71	0.74	0.72	0.73
Dubai, UAE	0.85	48	0.66	0.65	0.75	0.64	0.71	0.69	0.74	0.70

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 Student Bullying Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.13	0.02	0.03
Austria	0.13	0.02	0.03
Azerbaijan	0.13	0.02	0.03
Bahrain	0.22	0.05	0.05
Belgium (Flemish)	0.10	0.01	0.02
Belgium (French)	0.09	0.01	0.01
Bulgaria	0.12	0.01	0.02
Canada	0.13	0.02	0.03
Chile	0.19	0.04	0.06
Chinese Taipei	0.11	0.01	0.02
Czech Republic	0.11	0.01	0.02
Denmark	0.06	0.00	0.01
Egypt	0.10	0.01	0.01
England	0.14	0.02	0.03
Finland	0.12	0.01	0.02
France	0.14	0.02	0.03
Georgia	0.18	0.03	0.04
Germany	0.15	0.02	0.04
Hong Kong SAR	0.11	0.01	0.02
Hungary	0.12	0.02	0.03
Iran, Islamic Rep. of	0.01	0.00	0.00
Ireland	0.18	0.03	0.04
Israel	-	-	-
Italy	0.07	0.00	0.01
Kazakhstan	0.10	0.01	0.01
Kuwait	0.12	0.01	0.02
Latvia	0.18	0.03	0.04
Lithuania	0.19	0.04	0.04
Macao SAR	0.11	0.01	0.02
Malta	0.16	0.02	0.04
Morocco	0.15	0.02	0.03
Netherlands	0.07	0.00	0.01
New Zealand	0.17	0.03	0.04
Northern Ireland	0.13	0.02	0.03
Norway (5)	0.09	0.01	0.02
Oman	0.15	0.02	0.03
Poland	0.18	0.03	0.04
Portugal	0.10	0.01	0.01
Qatar	0.20	0.04	0.06
Russian Federation	0.11	0.01	0.02
Saudi Arabia	0.25	0.06	0.08
Singapore	0.18	0.03	0.04
Slovak Republic	0.14	0.02	0.03
Slovenia	0.09	0.01	0.02
South Africa	0.17	0.03	0.04
Spain	0.14	0.02	0.03
Sweden	0.11	0.01	0.02
Trinidad and Tobago	0.12	0.01	0.02
United Arab Emirates	0.22	0.05	0.06
United States	0.13	0.02	0.03
International Median	0.13	0.02	0.03
Benchmarking Participants			
Buenos Aires, Argentina	0.14	0.02	0.03
Ontario, Canada	0.14	0.02	0.03
Quebec, Canada	0.08	0.01	0.01
Denmark (3)	0.12	0.01	0.02
Norway (4)	0.07	0.00	0.01
Moscow City, Russian Fed.	0.15	0.02	0.02
Eng/Afr/Zulu - RSA (5)	0.19	0.04	0.05
Andalusia, Spain	0.11	0.01	0.02
Madrid, Spain	0.09	0.01	0.02
Abu Dhabi, UAE	0.23	0.05	0.07
Dubai, UAE	0.16	0.03	0.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Students Confident in Reading Scale

The *Students Confident in Reading* (SCR) scale was created based on students' degree of agreement with the six statements described below.

Items in the PIRLS 2016 *Students Confident in Reading* Scale

		How well do you read? Tell how much you agree with each of these statements.			
		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBR07A	1) I usually do well in reading -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR07B	2) Reading is easy for me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR07C*	3) I have trouble reading stories with difficult words* -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR07D*	4) Reading is harder for me than for many of my classmates* -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR07E*	5) Reading is harder for me than any other subject* -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR07F*	6) I am just not good at reading* -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* Reverse coded

Item Parameters for the PIRLS 2016 Students Confident in Reading Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBR07A	-0.52312	-0.32359	-0.68416	1.00775	1.11
ASBR07B	-0.60120	-0.48024	-0.42689	0.90713	1.03
* ASBR07C	1.01425	-0.93819	0.50887	0.42932	1.22
* ASBR07D	0.25813	-0.38905	0.22763	0.16142	0.94
* ASBR07E	-0.00713	-0.11719	0.22036	-0.10317	0.92
* ASBR07F	-0.14093	-0.05955	0.23700	-0.17745	0.90

* Reverse coded

Scale Transformation Constants for the PIRLS 2016 Students Confident in Reading Scale

Scale Transformation Constants	
A = 8.137507	Transformed Scale Score = 8.137507 + 1.753646 • Logit Scale Score
B = 1.753646	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Students Confident in Reading Scale

Raw Score	Transformed Scale Score	Cutpoint
0	2.95794	
1	4.60752	
2	5.40368	
3	5.97279	
4	6.43307	
5	6.82953	
6	7.18533	
7	7.50982	
8	7.81385	
9	8.10473	8.2
10	8.40103	
11	8.70504	
12	9.03187	
13	9.39594	
14	9.81182	
15	10.31185	10.3
16	10.93952	
17	11.79542	
18	13.47027	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Students Confident in Reading Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item					
			ASBR07A	ASBR07B	ASBR07C*	ASBR07D*	ASBR07E*	ASBR07F*
Australia	0.81	52	0.67	0.73	0.62	0.79	0.75	0.77
Austria	0.81	53	0.71	0.74	0.59	0.76	0.76	0.79
Azerbaijan	0.68	40	0.11	0.25	0.51	0.84	0.84	0.81
Bahrain	0.69	40	0.19	0.40	0.62	0.76	0.81	0.75
Belgium (Flemish)	0.83	56	0.75	0.80	0.57	0.76	0.75	0.83
Belgium (French)	0.75	45	0.59	0.60	0.55	0.74	0.75	0.77
Bulgaria	0.80	53	0.71	0.73	0.49	0.78	0.80	0.80
Canada	0.81	53	0.69	0.75	0.57	0.78	0.78	0.78
Chile	0.69	39	0.38	0.48	0.57	0.71	0.75	0.78
Chinese Taipei	0.78	49	0.60	0.66	0.45	0.81	0.81	0.80
Czech Republic	0.79	50	0.65	0.73	0.50	0.78	0.75	0.80
Denmark	0.83	56	0.77	0.80	0.58	0.75	0.78	0.79
Egypt	0.72	42	0.32	0.60	0.53	0.77	0.80	0.76
England	0.82	54	0.68	0.74	0.61	0.80	0.78	0.79
Finland	0.80	53	0.72	0.75	0.57	0.79	0.76	0.78
France	0.78	48	0.68	0.62	0.57	0.77	0.72	0.79
Georgia	0.75	45	0.45	0.52	0.49	0.81	0.82	0.82
Germany	0.82	54	0.71	0.74	0.58	0.78	0.78	0.80
Hong Kong SAR	0.80	50	0.62	0.67	0.57	0.79	0.80	0.76
Hungary	0.82	55	0.76	0.75	0.52	0.80	0.77	0.82
Iran, Islamic Rep. of	0.70	41	0.40	0.46	0.59	0.74	0.79	0.75
Ireland	0.82	54	0.72	0.78	0.61	0.79	0.75	0.76
Israel	0.75	46	0.42	0.63	0.49	0.80	0.80	0.82
Italy	0.75	45	0.63	0.63	0.61	0.75	0.67	0.73
Kazakhstan	0.77	48	0.37	0.44	0.67	0.85	0.85	0.79
Kuwait	0.65	37	0.44	0.57	0.42	0.69	0.73	0.73
Latvia	0.80	52	0.73	0.76	0.51	0.79	0.76	0.74
Lithuania	0.80	52	0.69	0.74	0.54	0.80	0.78	0.75
Macao SAR	0.75	45	0.61	0.63	0.46	0.76	0.77	0.75
Malta	0.71	42	0.55	0.53	0.49	0.79	0.73	0.74
Morocco	0.56	34	-0.08	0.32	0.58	0.74	0.76	0.71
Netherlands	0.85	59	0.73	0.82	0.58	0.79	0.80	0.84
New Zealand	0.76	46	0.55	0.63	0.55	0.79	0.78	0.74
Northern Ireland	0.83	55	0.70	0.74	0.65	0.78	0.77	0.79
Norway (5)	0.82	54	0.71	0.77	0.64	0.76	0.80	0.74
Oman	0.67	38	0.33	0.40	0.55	0.75	0.78	0.72
Poland	0.83	56	0.68	0.73	0.65	0.80	0.80	0.79
Portugal	0.72	44	0.71	0.65	0.56	0.66	0.57	0.79
Qatar	0.72	42	0.19	0.36	0.65	0.80	0.83	0.80
Russian Federation	0.79	51	0.71	0.72	0.54	0.80	0.74	0.73
Saudi Arabia	0.53	41	-0.41	0.26	0.64	0.73	0.83	0.75
Singapore	0.79	49	0.65	0.70	0.57	0.77	0.75	0.76
Slovak Republic	0.81	53	0.68	0.74	0.54	0.79	0.76	0.82
Slovenia	0.83	55	0.73	0.77	0.66	0.78	0.77	0.74
South Africa	0.58	35	-0.13	-0.07	0.61	0.74	0.77	0.74
Spain	0.68	40	0.61	0.60	0.41	0.70	0.67	0.73
Sweden	0.82	55	0.69	0.75	0.65	0.77	0.77	0.79
Trinidad and Tobago	0.76	47	0.63	0.66	0.49	0.75	0.77	0.77
United Arab Emirates	0.72	42	0.39	0.47	0.61	0.76	0.79	0.75
United States	0.79	49	0.62	0.67	0.57	0.80	0.76	0.76
Benchmarking Participants								
Buenos Aires, Argentina	0.65	37	0.47	0.43	0.46	0.77	0.65	0.78
Ontario, Canada	0.82	54	0.70	0.76	0.57	0.79	0.79	0.79
Quebec, Canada	0.82	54	0.70	0.75	0.58	0.77	0.78	0.80
Denmark (3)	0.80	51	0.71	0.75	0.60	0.74	0.73	0.77
Norway (4)	0.79	50	0.65	0.73	0.61	0.74	0.77	0.74
Moscow City, Russian Fed.	0.80	52	0.74	0.77	0.53	0.80	0.76	0.70
Eng/Afr/Zulu - RSA (5)	0.68	39	0.23	0.30	0.56	0.80	0.80	0.77
Andalusia, Spain	0.66	38	0.59	0.51	0.42	0.71	0.68	0.73
Madrid, Spain	0.67	39	0.63	0.57	0.42	0.71	0.65	0.72
Abu Dhabi, UAE	0.71	41	0.38	0.46	0.61	0.75	0.78	0.75
Dubai, UAE	0.75	45	0.51	0.55	0.58	0.77	0.78	0.76

*Reverse coded

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Students Confident in Reading Scale and PIRLS 2016 Reading Achievement

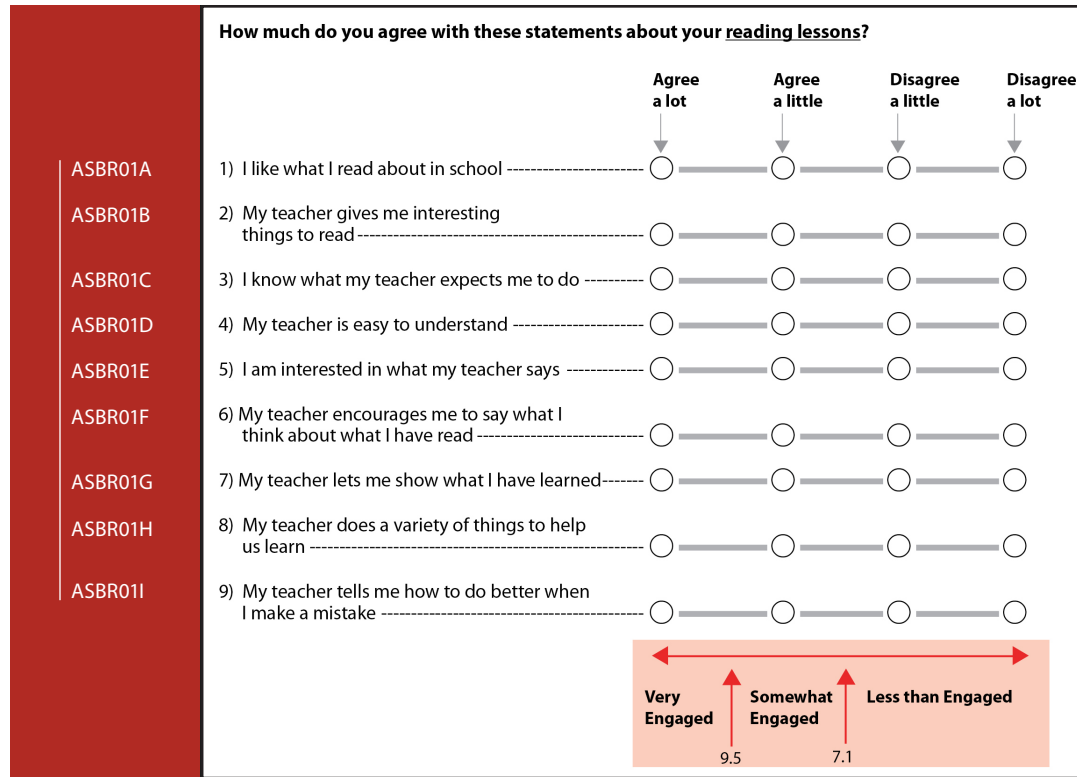
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.52	0.27	0.28
Austria	0.41	0.17	0.16
Azerbaijan	0.31	0.10	0.11
Bahrain	0.45	0.20	0.22
Belgium (Flemish)	0.33	0.11	0.10
Belgium (French)	0.43	0.18	0.19
Bulgaria	0.42	0.17	0.18
Canada	0.45	0.20	0.21
Chile	0.39	0.15	0.17
Chinese Taipei	0.40	0.16	0.17
Czech Republic	0.40	0.16	0.17
Denmark	0.50	0.25	0.23
Egypt	0.39	0.15	0.16
England	0.49	0.24	0.23
Finland	0.42	0.18	0.17
France	0.41	0.17	0.19
Georgia	0.38	0.15	0.16
Germany	0.40	0.16	0.17
Hong Kong SAR	0.39	0.15	0.14
Hungary	0.49	0.24	0.22
Iran, Islamic Rep. of	0.43	0.18	0.19
Ireland	0.44	0.19	0.19
Israel	0.46	0.21	0.24
Italy	0.30	0.09	0.11
Kazakhstan	0.23	0.05	0.07
Kuwait	0.36	0.13	0.14
Latvia	0.41	0.17	0.17
Lithuania	0.47	0.22	0.20
Macao SAR	0.37	0.14	0.13
Malta	0.46	0.21	0.21
Morocco	0.42	0.17	0.19
Netherlands	0.37	0.14	0.13
New Zealand	0.50	0.25	0.26
Northern Ireland	0.46	0.21	0.23
Norway (5)	0.46	0.21	0.19
Oman	0.43	0.18	0.19
Poland	0.40	0.16	0.20
Portugal	0.39	0.16	0.17
Qatar	0.43	0.18	0.21
Russian Federation	0.41	0.17	0.19
Saudi Arabia	0.33	0.11	0.12
Singapore	0.49	0.24	0.24
Slovak Republic	0.42	0.18	0.19
Slovenia	0.43	0.19	0.20
South Africa	0.39	0.15	0.15
Spain	0.39	0.15	0.16
Sweden	0.41	0.17	0.17
Trinidad and Tobago	0.53	0.29	0.30
United Arab Emirates	0.48	0.23	0.25
United States	0.44	0.20	0.19
International Median	0.42	0.17	0.19
Benchmarking Participants			
Buenos Aires, Argentina	0.43	0.19	0.19
Ontario, Canada	0.45	0.20	0.21
Quebec, Canada	0.43	0.19	0.19
Denmark (3)	0.47	0.22	0.21
Norway (4)	0.45	0.20	0.20
Moscow City, Russian Fed.	0.40	0.16	0.16
Eng/Afr/Zulu - RSA (5)	0.43	0.19	0.18
Andalusia, Spain	0.42	0.18	0.20
Madrid, Spain	0.37	0.14	0.14
Abu Dhabi, UAE	0.50	0.25	0.27
Dubai, UAE	0.44	0.20	0.22

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Students Engaged in Reading Lessons Scale

The *Students Engaged in Reading Lessons* (ERL) scale was created based on students' degree of agreement with the nine statements described below.

Items in the PIRLS 2016 *Students Engaged in Reading Lessons* Scale



Item Parameters for the PIRLS 2016 Students Engaged in Reading Lessons Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBR01A	0.21864	-0.59198	-0.74411	1.33609	1.06
ASBR01B	0.25459	-0.68288	-0.46758	1.15046	0.94
ASBR01C	0.06439	-0.36656	-0.61903	0.98559	1.19
ASBR01D	-0.12990	-0.58489	-0.54402	1.12891	1.04
ASBR01E	-0.02167	-0.56053	-0.56022	1.12075	0.95
ASBR01F	0.35783	-0.55558	-0.43518	0.99076	1.04
ASBR01G	0.13972	-0.56265	-0.42458	0.98723	1.01
ASBR01H	-0.53069	-0.08820	-0.47557	0.56377	0.98
ASBR01I	-0.35291	-0.16188	-0.43241	0.59429	1.00

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Scale Transformation Constants for the PIRLS 2016 Students Engaged in Reading Lessons Scale

Scale Transformation Constants	
A = 7.347685	Transformed Scale Score = 7.347685 + 1.442440 • Logit Scale Score
B = 1.442440	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Students Engaged in Reading Lessons Scale

Raw Score	Transformed Scale Score	Cutpoint
0	2.54080	
1	3.94030	
2	4.57040	
3	4.98984	
4	5.31080	
5	5.57732	
6	5.80694	
7	6.01513	
8	6.20800	
9	6.39051	
10	6.56630	
11	6.73824	
12	6.91081	
13	7.08114	7.1
14	7.25473	
15	7.43394	
16	7.62129	
17	7.81965	
18	8.03231	
19	8.26228	
20	8.51711	
21	8.80348	
22	9.13146	
23	9.51587	9.5
24	9.98157	
25	10.57734	
26	11.42874	
27	13.13080	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Students Engaged in Reading Lessons Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item								
			ASPR01A	ASPR01B	ASPR01C	ASPR01D	ASPR01E	ASPR01F	ASPR01G	ASPR01H	ASPR01I
Australia	0.84	44	0.61	0.72	0.59	0.66	0.75	0.67	0.65	0.67	0.65
Austria	0.85	46	0.63	0.73	0.61	0.66	0.72	0.72	0.70	0.70	0.64
Azerbaijan	0.83	44	0.55	0.70	0.55	0.63	0.73	0.69	0.69	0.68	0.71
Bahrain	0.84	44	0.59	0.67	0.61	0.66	0.72	0.69	0.69	0.67	0.64
Belgium (Flemish)	0.80	39	0.58	0.69	0.51	0.60	0.67	0.63	0.68	0.63	0.63
Belgium (French)	0.84	45	0.63	0.74	0.68	0.67	0.71	0.66	0.57	0.70	0.64
Bulgaria	0.85	46	0.64	0.76	0.55	0.62	0.63	0.70	0.74	0.71	0.72
Canada	0.84	44	0.60	0.71	0.61	0.67	0.73	0.68	0.65	0.65	0.65
Chile	0.88	50	0.63	0.74	0.69	0.70	0.74	0.72	0.72	0.72	0.72
Chinese Taipei	0.89	52	0.61	0.74	0.73	0.68	0.75	0.75	0.76	0.76	0.74
Czech Republic	0.85	45	0.65	0.70	0.57	0.67	0.69	0.69	0.65	0.69	0.70
Denmark	0.85	46	0.67	0.74	0.58	0.59	0.71	0.74	0.72	0.72	0.63
Egypt	0.79	40	0.63	0.60	0.46	0.66	0.71	0.71	0.70	0.58	0.60
England	0.84	44	0.63	0.71	0.62	0.65	0.72	0.65	0.65	0.67	0.66
Finland	0.86	48	0.62	0.72	0.61	0.72	0.73	0.70	0.70	0.72	0.70
France	0.83	42	0.67	0.73	0.55	0.58	0.72	0.65	0.67	0.62	0.64
Georgia	0.72	35	0.56	0.69	0.49	0.64	0.47	0.47	0.69	0.66	0.64
Germany	0.85	46	0.63	0.75	0.61	0.73	0.69	0.71	0.67	0.66	0.66
Hong Kong SAR	0.89	52	0.66	0.78	0.70	0.68	0.78	0.74	0.73	0.72	0.71
Hungary	0.86	48	0.65	0.71	0.64	0.69	0.74	0.70	0.66	0.72	0.70
Iran, Islamic Rep. of	0.82	42	0.64	0.65	0.52	0.68	0.73	0.63	0.70	0.64	0.64
Ireland	0.83	44	0.64	0.76	0.59	0.64	0.75	0.64	0.62	0.65	0.63
Israel	0.87	49	0.67	0.77	0.59	0.66	0.77	0.71	0.71	0.69	0.71
Italy	0.78	37	0.66	0.71	0.49	0.57	0.69	0.59	0.59	0.58	0.60
Kazakhstan	0.80	40	0.54	0.66	0.59	0.64	0.66	0.68	0.67	0.57	0.62
Kuwait	0.79	38	0.59	0.67	0.52	0.59	0.67	0.63	0.65	0.60	0.60
Latvia	0.83	43	0.62	0.71	0.60	0.67	0.71	0.62	0.66	0.66	0.66
Lithuania	0.81	40	0.62	0.71	0.60	0.62	0.64	0.65	0.64	0.60	0.62
Macao SAR	0.85	46	0.68	0.74	0.65	0.66	0.71	0.69	0.69	0.66	0.62
Malta	0.81	41	0.61	0.69	0.64	0.55	0.69	0.65	0.65	0.62	0.65
Morocco	0.76	35	0.53	0.56	0.54	0.61	0.64	0.64	0.67	0.56	0.55
Netherlands	0.81	41	0.60	0.69	0.54	0.63	0.71	0.61	0.67	0.65	0.62
New Zealand	0.83	43	0.63	0.73	0.60	0.65	0.73	0.65	0.64	0.67	0.63
Northern Ireland	0.83	42	0.61	0.72	0.57	0.66	0.71	0.65	0.66	0.64	0.64
Norway (5)	0.83	43	0.62	0.71	0.57	0.66	0.69	0.72	0.66	0.63	0.62
Oman	0.83	44	0.59	0.68	0.51	0.67	0.72	0.69	0.69	0.70	0.66
Poland	0.86	48	0.66	0.75	0.66	0.63	0.74	0.68	0.71	0.69	0.68
Portugal	0.79	39	0.63	0.70	0.49	0.60	0.67	0.63	0.64	0.58	0.64
Qatar	0.87	49	0.65	0.73	0.68	0.71	0.74	0.69	0.69	0.72	0.68
Russian Federation	0.81	40	0.56	0.68	0.59	0.65	0.68	0.62	0.64	0.65	0.65
Saudi Arabia	0.82	42	0.48	0.64	0.56	0.67	0.70	0.71	0.71	0.69	0.66
Singapore	0.85	45	0.63	0.72	0.61	0.67	0.74	0.68	0.65	0.68	0.68
Slovak Republic	0.84	44	0.64	0.73	0.59	0.65	0.71	0.66	0.66	0.69	0.64
Slovenia	0.85	46	0.65	0.73	0.64	0.70	0.60	0.68	0.68	0.72	0.70
South Africa	0.84	44	0.62	0.70	0.65	0.64	0.62	0.66	0.70	0.69	0.66
Spain	0.80	40	0.61	0.70	0.47	0.57	0.70	0.66	0.65	0.66	0.63
Sweden	0.86	47	0.63	0.72	0.61	0.70	0.71	0.72	0.69	0.71	0.65
Trinidad and Tobago	0.83	42	0.60	0.69	0.61	0.66	0.73	0.66	0.62	0.63	0.64
United Arab Emirates	0.85	45	0.62	0.72	0.61	0.68	0.71	0.68	0.69	0.69	0.64
United States	0.86	47	0.60	0.74	0.62	0.69	0.76	0.71	0.67	0.67	0.68
Benchmarking Participants											
Buenos Aires, Argentina	0.83	44	0.60	0.68	0.55	0.56	0.70	0.67	0.72	0.72	0.71
Ontario, Canada	0.84	45	0.61	0.71	0.63	0.70	0.74	0.70	0.64	0.65	0.65
Quebec, Canada	0.83	43	0.54	0.71	0.60	0.65	0.75	0.64	0.69	0.65	0.65
Denmark (3)	0.83	43	0.66	0.73	0.59	0.51	0.73	0.70	0.72	0.65	0.59
Norway (4)	0.82	42	0.63	0.72	0.54	0.62	0.71	0.70	0.63	0.59	0.62
Moscow City, Russian Fed.	0.83	43	0.61	0.73	0.59	0.66	0.73	0.60	0.63	0.67	0.66
Eng/Afr/Zulu - RSA (5)	0.81	40	0.63	0.68	0.63	0.61	0.62	0.66	0.64	0.62	0.63
Andalusia, Spain	0.79	39	0.58	0.67	0.46	0.55	0.68	0.63	0.68	0.67	0.64
Madrid, Spain	0.81	41	0.61	0.70	0.51	0.61	0.65	0.67	0.67	0.66	0.66
Abu Dhabi, UAE	0.85	45	0.61	0.71	0.59	0.69	0.71	0.70	0.68	0.72	0.64
Dubai, UAE	0.84	44	0.63	0.71	0.62	0.63	0.71	0.66	0.69	0.66	0.64

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Students Engaged in Reading Lessons Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.02	0.00	0.00
Austria	0.02	0.00	0.00
Azerbaijan	0.14	0.02	0.02
Bahrain	0.17	0.03	0.03
Belgium (Flemish)	0.04	0.00	0.00
Belgium (French)	-0.01	0.00	0.00
Bulgaria	0.06	0.00	0.01
Canada	0.09	0.01	0.01
Chile	0.12	0.01	0.03
Chinese Taipei	0.09	0.01	0.01
Czech Republic	-0.06	0.00	0.01
Denmark	0.15	0.02	0.03
Egypt	0.15	0.02	0.02
England	0.04	0.00	0.01
Finland	0.08	0.01	0.01
France	-0.01	0.00	0.00
Georgia	0.14	0.02	0.03
Germany	0.12	0.01	0.03
Hong Kong SAR	0.11	0.01	0.02
Hungary	0.05	0.00	0.00
Iran, Islamic Rep. of	0.08	0.01	0.02
Ireland	0.03	0.00	0.00
Israel	-0.09	0.01	0.00
Italy	0.06	0.00	0.01
Kazakhstan	0.04	0.00	0.00
Kuwait	0.13	0.02	0.03
Latvia	0.03	0.00	0.00
Lithuania	0.09	0.01	0.02
Macao SAR	0.10	0.01	0.01
Malta	0.19	0.04	0.05
Morocco	0.10	0.01	0.01
Netherlands	0.05	0.00	0.01
New Zealand	-0.01	0.00	0.00
Northern Ireland	-0.01	0.00	0.00
Norway (5)	0.05	0.00	0.00
Oman	0.15	0.02	0.04
Poland	-0.04	0.00	0.01
Portugal	0.09	0.01	0.01
Qatar	0.16	0.03	0.04
Russian Federation	-0.01	0.00	0.00
Saudi Arabia	0.16	0.03	0.04
Singapore	0.03	0.00	0.01
Slovak Republic	-0.08	0.01	0.00
Slovenia	-0.03	0.00	0.00
South Africa	0.16	0.03	0.04
Spain	0.03	0.00	0.00
Sweden	0.04	0.00	0.01
Trinidad and Tobago	0.09	0.01	0.01
United Arab Emirates	0.17	0.03	0.04
United States	0.08	0.01	0.01
International Median	0.07	0.01	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.02	0.00	0.00
Ontario, Canada	0.11	0.01	0.02
Quebec, Canada	0.06	0.00	0.01
Denmark (3)	0.05	0.00	0.01
Norway (4)	0.04	0.00	0.01
Moscow City, Russian Fed.	0.02	0.00	0.00
Eng/Afr/Zulu - RSA (5)	0.04	0.00	0.01
Andalusia, Spain	0.04	0.00	0.00
Madrid, Spain	-0.02	0.00	0.00
Abu Dhabi, UAE	0.16	0.03	0.04
Dubai, UAE	0.13	0.02	0.04

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Students Like Reading Scale

The *Students Like Reading* (SLR) scale was created based on students' responses to the ten items described below.

Items in the PIRLS 2016 *Students Like Reading* Scale

		What do you think about reading? Tell how much you agree with each of these statements.			
		Agree a lot	Agree a little	Disagree a little	Disagree a lot
ASBR06A	1) I like talking about what I read with other people -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06B	2) I would be happy if someone gave me a book as a present -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06C*	3) I think reading is boring* -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06D	4) I would like to have more time for reading -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06E	5) I enjoy reading -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06F	6) I learn a lot from reading -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06G	7) I like to read things that make me think -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR06H	8) I like it when a book helps me imagine other worlds -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		* Reverse coded			
		How often do you do these things <u>outside of school</u> ?			
		Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
ASBR05A	1) I read for fun -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBR05B	2) I read to find out about things I want to learn -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Item Parameters for the PIRLS 2016 Students Like Reading Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBR06A	0.34442	-0.46997	-0.35824	0.82821	1.12
ASBR06B	-0.11815	-0.20564	-0.36880	0.57444	0.92
* ASBR06C	0.07123	-0.25296	0.13935	0.11361	1.27
ASBR06D	0.31398	-0.56008	-0.11801	0.67809	0.89
ASBR06E	-0.17844	-0.19317	-0.35192	0.54509	0.72
ASBR06F	-0.57533	-0.50890	-0.23851	0.74741	0.90
ASBR06G	-0.11502	-0.39988	-0.24307	0.64295	0.95
ASBR06H	-0.45737	0.03019	-0.28447	0.25428	1.02
ASBR05A	0.40723	-0.22541	-0.47027	0.69568	1.18
ASBR05B	0.30745	-0.62547	-0.19966	0.82513	1.13

* Reverse coded

Scale Transformation Constants for the PIRLS 2016 Students Like Reading Scale

Scale Transformation Constants	
A = 8.281596	Transformed Scale Score = 8.281596 + 1.704604 • Logit Scale Score
B = 1.704604	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Students Like Reading Scale

Raw Score	Transformed Scale Score	Cutpoint
0	2.55082	
1	4.26783	
2	5.03823	
3	5.54349	
4	5.92440	
5	6.23597	
6	6.50253	
7	6.73682	
8	6.95316	
9	7.15371	
10	7.34241	
11	7.52243	
12	7.69637	
13	7.86639	
14	8.03431	
15	8.20182	8.3
16	8.37054	
17	8.54211	
18	8.71838	
19	8.90141	
20	9.09362	
21	9.29790	
22	9.51573	
23	9.75594	
24	10.02472	
25	10.33319	10.3
26	10.69833	
27	11.15205	
28	11.75519	
29	12.66304	
30	14.58422	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Students Like Reading Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item									
			ASBR06A	ASBR06B	ASBR06C*	ASBR06D	ASBR06E	ASBR06F	ASBR06G	ASBR06H	ASBR06I	ASBR06J
Australia	0.88	49	0.53	0.73	0.77	0.78	0.84	0.68	0.71	0.66	0.67	0.55
Austria	0.86	45	0.54	0.67	0.65	0.71	0.83	0.66	0.62	0.67	0.74	0.58
Azerbaijan	0.68	33	0.34	0.63	0.24	0.69	0.75	0.74	0.69	0.67	0.28	0.42
Bahrain	0.83	41	0.55	0.66	0.40	0.75	0.80	0.73	0.70	0.64	0.48	0.56
Belgium (Flemish)	0.87	47	0.56	0.73	0.76	0.77	0.85	0.66	0.69	0.60	0.69	0.47
Belgium (French)	0.86	45	0.56	0.73	0.53	0.74	0.81	0.68	0.71	0.63	0.63	0.61
Bulgaria	0.89	50	0.66	0.72	0.55	0.78	0.83	0.72	0.73	0.68	0.71	0.66
Canada	0.86	45	0.52	0.70	0.70	0.77	0.83	0.66	0.68	0.61	0.63	0.55
Chile	0.88	49	0.64	0.75	0.47	0.76	0.85	0.73	0.80	0.69	0.60	0.67
Chinese Taipei	0.89	51	0.59	0.62	0.64	0.84	0.86	0.79	0.72	0.67	0.66	0.67
Czech Republic	0.88	47	0.63	0.72	0.69	0.70	0.83	0.69	0.62	0.63	0.71	0.64
Denmark	0.85	44	0.62	0.71	0.69	0.71	0.84	0.64	0.75	0.66	0.50	0.48
Egypt	0.84	44	0.64	0.67	0.40	0.71	0.81	0.81	0.79	0.67	0.48	0.55
England	0.87	47	0.58	0.71	0.72	0.75	0.84	0.68	0.69	0.64	0.69	0.52
Finland	0.89	50	0.64	0.76	0.75	0.71	0.84	0.64	0.76	0.71	0.69	0.53
France	0.84	43	0.53	0.69	0.60	0.71	0.80	0.66	0.67	0.59	0.64	0.60
Georgia	0.72	36	0.48	0.74	0.32	0.72	0.80	0.67	0.55	0.66	0.17	0.56
Germany	0.88	49	0.57	0.75	0.73	0.72	0.85	0.68	0.68	0.70	0.72	0.56
Hong Kong SAR	0.89	50	0.58	0.72	0.60	0.80	0.84	0.76	0.72	0.74	0.65	0.63
Hungary	0.87	46	0.67	0.73	0.65	0.76	0.83	0.63	0.68	0.66	0.65	0.48
Iran, Islamic Rep. of	0.71	33	0.51	0.63	0.33	0.68	0.74	0.65	0.57	0.70	0.31	0.45
Ireland	0.87	48	0.56	0.75	0.75	0.75	0.85	0.67	0.68	0.63	0.69	0.54
Israel	0.89	51	0.59	0.73	0.58	0.80	0.85	0.74	0.77	0.67	0.70	0.65
Italy	0.86	45	0.58	0.71	0.70	0.77	0.82	0.63	0.63	0.61	0.58	0.62
Kazakhstan	0.74	36	0.58	0.66	0.14	0.67	0.77	0.62	0.66	0.63	0.63	0.44
Kuwait	0.78	36	0.57	0.64	0.42	0.69	0.74	0.68	0.66	0.57	0.47	0.47
Latvia	0.89	50	0.61	0.77	0.69	0.79	0.84	0.69	0.68	0.62	0.71	0.63
Lithuania	0.86	44	0.62	0.74	0.65	0.69	0.79	0.67	0.60	0.62	0.65	0.60
Macao SAR	0.86	45	0.55	0.66	0.54	0.79	0.83	0.70	0.67	0.67	0.59	0.63
Malta	0.84	42	0.56	0.72	0.58	0.73	0.81	0.68	0.64	0.57	0.64	0.45
Morocco	0.71	30	0.48	0.54	0.33	0.64	0.69	0.68	0.61	0.56	0.40	0.47
Netherlands	0.88	48	0.59	0.70	0.73	0.76	0.85	0.68	0.72	0.64	0.70	0.54
New Zealand	0.86	45	0.55	0.71	0.53	0.76	0.82	0.70	0.73	0.66	0.64	0.58
Northern Ireland	0.87	47	0.56	0.76	0.71	0.76	0.83	0.66	0.68	0.61	0.67	0.53
Norway (5)	0.87	46	0.63	0.73	0.73	0.75	0.84	0.63	0.69	0.63	0.62	0.50
Oman	0.78	36	0.52	0.61	0.32	0.67	0.75	0.73	0.66	0.65	0.46	0.52
Poland	0.90	53	0.63	0.77	0.70	0.73	0.86	0.71	0.72	0.66	0.75	0.69
Portugal	0.84	43	0.59	0.66	0.58	0.69	0.80	0.66	0.69	0.62	0.64	0.61
Qatar	0.83	42	0.57	0.70	0.31	0.74	0.80	0.76	0.72	0.67	0.47	0.59
Russian Federation	0.85	43	0.56	0.73	0.62	0.76	0.81	0.65	0.63	0.58	0.64	0.54
Saudi Arabia	0.77	37	0.47	0.63	0.23	0.73	0.79	0.72	0.71	0.59	0.49	0.52
Singapore	0.84	44	0.50	0.73	0.64	0.80	0.83	0.74	0.66	0.61	0.32	0.60
Slovak Republic	0.88	48	0.64	0.71	0.65	0.71	0.83	0.66	0.64	0.67	0.72	0.66
Slovenia	0.86	45	0.59	0.77	0.65	0.74	0.83	0.63	0.60	0.66	0.61	0.56
South Africa	0.75	36	0.55	0.69	0.08	0.69	0.74	0.69	0.69	0.65	0.38	0.50
Spain	0.86	45	0.56	0.66	0.63	0.74	0.82	0.69	0.69	0.62	0.62	0.64
Sweden	0.88	49	0.63	0.72	0.75	0.71	0.85	0.68	0.72	0.68	0.72	0.51
Trinidad and Tobago	0.82	39	0.58	0.65	0.49	0.75	0.81	0.64	0.68	0.60	0.48	0.50
United Arab Emirates	0.81	40	0.56	0.67	0.38	0.74	0.79	0.74	0.70	0.63	0.43	0.56
United States	0.87	46	0.59	0.71	0.61	0.77	0.82	0.68	0.71	0.64	0.65	0.59
Benchmarking Participants												
Buenos Aires, Argentina	0.87	47	0.57	0.75	0.54	0.79	0.83	0.68	0.73	0.65	0.68	0.61
Ontario, Canada	0.87	47	0.52	0.72	0.70	0.79	0.84	0.67	0.70	0.62	0.66	0.59
Quebec, Canada	0.84	42	0.52	0.68	0.69	0.75	0.82	0.60	0.61	0.60	0.65	0.54
Denmark (3)	0.83	41	0.56	0.68	0.67	0.71	0.83	0.63	0.73	0.64	0.43	0.45
Norway (4)	0.85	43	0.58	0.72	0.68	0.72	0.80	0.64	0.70	0.60	0.55	0.51
Moscow City, Russian Fed.	0.86	45	0.61	0.75	0.69	0.76	0.81	0.64	0.60	0.56	0.68	0.52
Eng/Afr/Zulu - RSA (5)	0.76	37	0.59	0.71	0.20	0.71	0.78	0.69	0.65	0.61	0.39	0.50
Andalusia, Spain	0.86	46	0.55	0.69	0.63	0.73	0.83	0.71	0.70	0.63	0.63	0.63
Madrid, Spain	0.86	46	0.57	0.67	0.68	0.73	0.82	0.70	0.68	0.61	0.64	0.64
Abu Dhabi, UAE	0.82	40	0.57	0.66	0.34	0.75	0.80	0.74	0.69	0.62	0.48	0.55
Dubai, UAE	0.83	42	0.57	0.71	0.51	0.75	0.80	0.72	0.68	0.61	0.47	0.56

*Reverse coded

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Students Like Reading Scale and PIRLS 2016 Reading Achievement

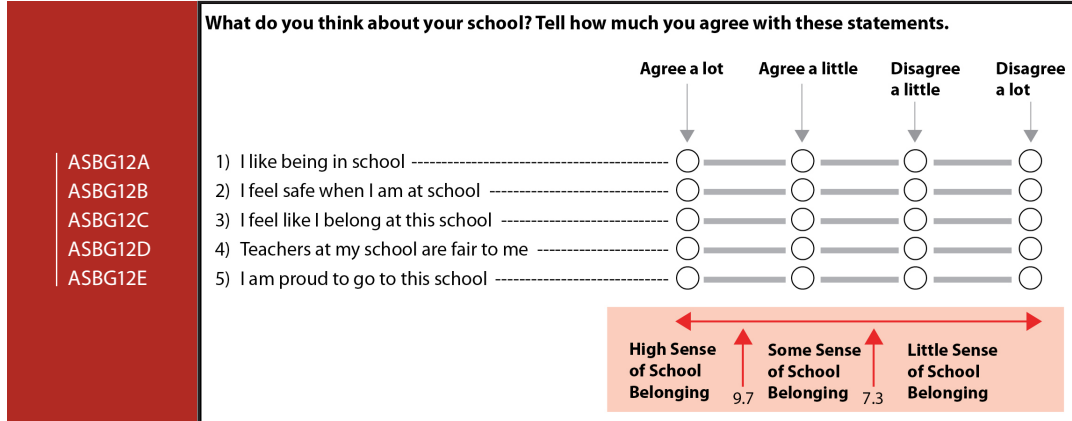
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.12	0.01	0.03
Austria	0.11	0.01	0.02
Azerbaijan	0.18	0.03	0.03
Bahrain	0.18	0.03	0.03
Belgium (Flemish)	0.14	0.02	0.02
Belgium (French)	0.11	0.01	0.01
Bulgaria	0.10	0.01	0.03
Canada	0.14	0.02	0.02
Chile	0.07	0.01	0.00
Chinese Taipei	0.20	0.04	0.03
Czech Republic	0.12	0.01	0.02
Denmark	0.23	0.05	0.04
Egypt	0.29	0.09	0.09
England	0.18	0.03	0.04
Finland	0.25	0.06	0.06
France	0.09	0.01	0.01
Georgia	0.12	0.01	0.02
Germany	0.25	0.06	0.07
Hong Kong SAR	0.19	0.04	0.04
Hungary	0.17	0.03	0.04
Iran, Islamic Rep. of	0.20	0.04	0.05
Ireland	0.18	0.03	0.04
Israel	-0.01	0.00	0.00
Italy	0.07	0.00	0.01
Kazakhstan	0.05	0.00	0.00
Kuwait	0.17	0.03	0.03
Latvia	0.06	0.00	0.01
Lithuania	0.05	0.00	0.01
Macao SAR	0.24	0.06	0.05
Malta	0.18	0.03	0.04
Morocco	0.23	0.06	0.06
Netherlands	0.20	0.04	0.04
New Zealand	0.08	0.01	0.01
Northern Ireland	0.20	0.04	0.05
Norway (5)	0.22	0.05	0.05
Oman	0.24	0.06	0.06
Poland	0.08	0.01	0.01
Portugal	0.01	0.00	0.00
Qatar	0.16	0.03	0.03
Russian Federation	0.03	0.00	0.00
Saudi Arabia	0.19	0.04	0.03
Singapore	0.22	0.05	0.05
Slovak Republic	0.16	0.02	0.02
Slovenia	0.14	0.02	0.02
South Africa	0.22	0.05	0.04
Spain	0.09	0.01	0.01
Sweden	0.21	0.04	0.05
Trinidad and Tobago	0.12	0.01	0.02
United Arab Emirates	0.19	0.04	0.04
United States	0.08	0.01	0.01
International Median	0.16	0.03	0.03
Benchmarking Participants			
Buenos Aires, Argentina	-0.09	0.01	0.01
Ontario, Canada	0.16	0.03	0.02
Quebec, Canada	0.12	0.01	0.02
Denmark (3)	0.15	0.02	0.02
Norway (4)	0.14	0.02	0.02
Moscow City, Russian Fed.	0.11	0.01	0.01
Eng/Afr/Zulu - RSA (5)	0.05	0.00	0.00
Andalusia, Spain	0.08	0.01	0.01
Madrid, Spain	0.06	0.00	0.01
Abu Dhabi, UAE	0.22	0.05	0.05
Dubai, UAE	0.12	0.01	0.02

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Students' Sense of School Belonging Scale

The *Students' Sense of School Belonging* (SSB) scale was created based on students' degree of agreement with the five statements described below.

Items in the PIRLS 2016 *Students' Sense of School Belonging* Scale



Item Parameters for the PIRLS 2016 Students' Sense of School Belonging Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBG12A	0.35879	-0.45320	-0.71326	1.16646	1.03
ASBG12B	-0.05809	-0.47509	-0.46271	0.93780	1.02
ASBG12C	0.05363	-0.33690	-0.38143	0.71833	1.00
ASBG12D	-0.20416	-0.29014	-0.40311	0.69325	1.10
ASBG12E	-0.15017	-0.09998	-0.47379	0.57377	0.95

Scale Transformation Constants for the PIRLS 2016 Students' Sense of School Belonging Scale

Scale Transformation Constants	
A = 7.558990	Transformed Scale Score = 7.558990 + 1.566579 • Logit Scale Score
B = 1.566579	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Students' Sense of School Belonging Scale

Raw Score	Transformed Scale Score	Cutpoint
0	3.45100	
1	4.84737	
2	5.50192	
3	5.96197	
4	6.33045	
5	6.65432	
6	6.95548	
7	7.25277	7.3
8	7.54290	
9	7.85416	
10	8.19786	
11	8.59455	
12	9.08205	
13	9.73132	9.7
14	10.70304	
15	12.65139	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Students' Sense of School Belonging Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item				
			ASBG12A	ASBG12B	ASBG12C	ASBG12D	ASBG12E
Australia	0.82	58	0.76	0.74	0.79	0.71	0.82
Austria	0.78	53	0.74	0.78	0.70	0.65	0.76
Azerbaijan	0.72	48	0.69	0.67	0.68	0.69	0.76
Bahrain	0.77	52	0.74	0.71	0.76	0.62	0.78
Belgium (Flemish)	0.78	53	0.74	0.69	0.76	0.66	0.78
Belgium (French)	0.74	50	0.71	0.67	0.76	0.58	0.81
Bulgaria	0.76	52	0.63	0.70	0.80	0.66	0.81
Canada	0.79	54	0.72	0.73	0.75	0.68	0.81
Chile	0.82	58	0.74	0.77	0.81	0.63	0.85
Chinese Taipei	0.77	52	0.74	0.69	0.74	0.67	0.76
Czech Republic	0.72	48	0.71	0.71	0.59	0.68	0.77
Denmark	0.80	56	0.74	0.77	0.79	0.63	0.80
Egypt	0.72	47	0.65	0.67	0.70	0.66	0.75
England	0.81	57	0.75	0.73	0.76	0.69	0.83
Finland	0.81	57	0.78	0.77	0.71	0.74	0.78
France	0.70	47	0.73	0.66	0.64	0.55	0.81
Georgia	0.67	44	0.68	0.63	0.63	0.64	0.74
Germany	0.79	54	0.70	0.76	0.76	0.65	0.80
Hong Kong SAR	0.80	56	0.73	0.78	0.82	0.69	0.73
Hungary	0.78	54	0.68	0.71	0.78	0.69	0.80
Iran, Islamic Rep. of	0.63	44	0.72	0.71	0.75	0.64	0.46
Ireland	0.79	56	0.72	0.74	0.74	0.73	0.79
Israel	0.84	61	0.78	0.78	0.77	0.74	0.84
Italy	0.76	52	0.73	0.72	0.68	0.67	0.80
Kazakhstan	0.68	46	0.67	0.59	0.74	0.65	0.73
Kuwait	0.75	50	0.73	0.70	0.73	0.60	0.79
Latvia	0.77	52	0.73	0.71	0.73	0.67	0.77
Lithuania	0.73	48	0.73	0.65	0.69	0.66	0.75
Macao SAR	0.73	49	0.65	0.74	0.77	0.63	0.69
Malta	0.74	49	0.71	0.66	0.73	0.64	0.77
Morocco	0.59	39	0.52	0.67	0.72	0.52	0.67
Netherlands	0.79	55	0.76	0.73	0.75	0.70	0.78
New Zealand	0.80	56	0.72	0.74	0.77	0.69	0.81
Northern Ireland	0.78	55	0.70	0.74	0.76	0.68	0.80
Norway (5)	0.79	55	0.70	0.73	0.78	0.70	0.79
Oman	0.76	52	0.71	0.69	0.74	0.67	0.77
Poland	0.80	55	0.76	0.70	0.75	0.67	0.83
Portugal	0.74	50	0.77	0.68	0.72	0.53	0.82
Qatar	0.82	57	0.78	0.73	0.77	0.67	0.83
Russian Federation	0.72	48	0.72	0.66	0.71	0.67	0.71
Saudi Arabia	0.75	50	0.67	0.70	0.75	0.65	0.76
Singapore	0.79	55	0.76	0.72	0.77	0.65	0.80
Slovak Republic	0.78	53	0.70	0.71	0.74	0.68	0.81
Slovenia	0.78	53	0.72	0.71	0.73	0.67	0.80
South Africa	0.74	49	0.69	0.72	0.71	0.64	0.73
Spain	0.74	49	0.71	0.69	0.70	0.67	0.74
Sweden	0.82	59	0.74	0.74	0.82	0.69	0.82
Trinidad and Tobago	0.73	48	0.70	0.62	0.75	0.60	0.79
United Arab Emirates	0.79	54	0.74	0.73	0.77	0.64	0.79
United States	0.81	57	0.72	0.75	0.78	0.70	0.81
Benchmarking Participants							
Buenos Aires, Argentina	0.75	50	0.74	0.71	0.68	0.65	0.76
Ontario, Canada	0.78	54	0.72	0.72	0.75	0.66	0.82
Quebec, Canada	0.77	52	0.71	0.73	0.69	0.67	0.80
Denmark (3)	0.78	53	0.73	0.74	0.77	0.63	0.77
Norway (4)	0.78	54	0.73	0.70	0.78	0.65	0.80
Moscow City, Russian Fed.	0.77	53	0.75	0.70	0.73	0.69	0.74
Eng/Afr/Zulu - RSA (5)	0.75	50	0.69	0.70	0.78	0.61	0.75
Andalusia, Spain	0.76	51	0.72	0.68	0.73	0.66	0.78
Madrid, Spain	0.75	51	0.72	0.69	0.71	0.66	0.78
Abu Dhabi, UAE	0.78	53	0.73	0.73	0.76	0.63	0.78
Dubai, UAE	0.79	54	0.75	0.73	0.76	0.64	0.79

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Students' Sense of School Belonging Scale and PIRLS 2016 Reading Achievement

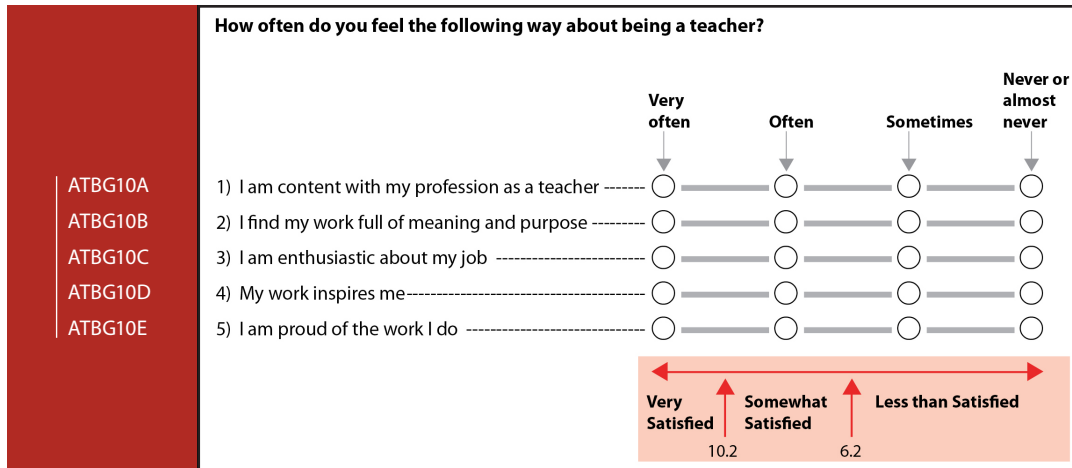
Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.13	0.02	0.02
Austria	0.10	0.01	0.01
Azerbaijan	0.13	0.02	0.01
Bahrain	0.15	0.02	0.03
Belgium (Flemish)	0.16	0.03	0.03
Belgium (French)	0.09	0.01	0.01
Bulgaria	-0.07	0.00	0.00
Canada	0.14	0.02	0.02
Chile	0.17	0.03	0.03
Chinese Taipei	0.14	0.02	0.02
Czech Republic	0.06	0.00	0.01
Denmark	0.19	0.04	0.03
Egypt	-0.01	0.00	0.00
England	0.15	0.02	0.03
Finland	0.16	0.03	0.03
France	0.05	0.00	0.01
Georgia	0.05	0.00	0.01
Germany	0.18	0.03	0.03
Hong Kong SAR	0.18	0.03	0.02
Hungary	0.10	0.01	0.01
Iran, Islamic Rep. of	-0.11	0.01	0.01
Ireland	0.17	0.03	0.03
Israel	-0.04	0.00	0.00
Italy	0.10	0.01	0.01
Kazakhstan	0.03	0.00	0.00
Kuwait	0.08	0.01	0.01
Latvia	0.05	0.00	0.01
Lithuania	0.07	0.00	0.01
Macao SAR	0.14	0.02	0.02
Malta	0.18	0.03	0.04
Morocco	0.04	0.00	0.00
Netherlands	0.15	0.02	0.03
New Zealand	0.11	0.01	0.01
Northern Ireland	0.17	0.03	0.04
Norway (5)	0.15	0.02	0.02
Oman	0.16	0.02	0.03
Poland	-0.04	0.00	0.00
Portugal	0.12	0.02	0.02
Qatar	0.18	0.03	0.04
Russian Federation	0.01	0.00	0.00
Saudi Arabia	0.17	0.03	0.03
Singapore	0.11	0.01	0.01
Slovak Republic	-0.05	0.00	0.00
Slovenia	0.02	0.00	0.00
South Africa	0.08	0.01	0.01
Spain	0.08	0.01	0.01
Sweden	0.14	0.02	0.02
Trinidad and Tobago	0.12	0.02	0.02
United Arab Emirates	0.20	0.04	0.05
United States	0.17	0.03	0.03
International Median	0.12	0.02	0.01
Benchmarking Participants			
Buenos Aires, Argentina	0.01	0.00	0.00
Ontario, Canada	0.15	0.02	0.02
Quebec, Canada	0.11	0.01	0.01
Denmark (3)	0.16	0.03	0.02
Norway (4)	0.11	0.01	0.01
Moscow City, Russian Fed.	0.08	0.01	0.01
Eng/Afr/Zulu - RSA (5)	-0.07	0.00	0.00
Andalusia, Spain	0.05	0.00	0.01
Madrid, Spain	0.05	0.00	0.01
Abu Dhabi, UAE	0.15	0.02	0.03
Dubai, UAE	0.20	0.04	0.05

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Teacher Job Satisfaction Scale

The *Teacher Job Satisfaction* (TJS) scale was created based on the degree that teachers responded positively to the five items below.

Items in the PIRLS 2016 *Teacher Job Satisfaction Scale*¹



¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories "Sometimes" and "Never or almost never" were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the PIRLS 2016 Teacher Job Satisfaction Scale

Item	delta	tau_1	tau_2	Infit
ATBG10A	0.37535	-2.26426	2.26426	1.11
ATBG10B	-0.78996	-2.26314	2.26314	1.05
ATBG10C	0.06308	-2.28012	2.28012	0.89
ATBG10D	0.46060	-2.32478	2.32478	0.91
ATBG10E	-0.10907	-1.95730	1.95730	1.14

Scale Transformation Constants for the PIRLS 2016 Teacher Job Satisfaction Scale

Scale Transformation Constants	
A = 8.192812	Transformed Scale Score = 8.192812 + 0.804273 • Logit Scale Score
B = 0.804273	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Teacher Job Satisfaction Scale

Raw Score	Transformed Scale Score	Cutpoint
0	4.38704	
1	5.47445	
2	6.12206	6.2
3	6.68375	
4	7.29255	
5	8.17713	
6	9.07681	
7	9.70719	
8	10.27783	10.2
9	10.92662	
10	11.99778	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

**Cronbach's Alpha Reliability Coefficient and Principal Components
Analysis of the Items in the PIRLS 2016 Teacher Job Satisfaction Scale**

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item				
			ATBG10A	ATBG10B	ATBG10C	ATBG10D	ATBG10E
Australia	0.90	71	0.87	0.82	0.89	0.87	0.74
Austria	0.86	65	0.76	0.75	0.85	0.86	0.80
Azerbaijan	0.79	55	0.71	0.68	0.73	0.81	0.77
Bahrain	0.88	69	0.84	0.80	0.85	0.83	0.82
Belgium (Flemish)	0.89	69	0.81	0.82	0.85	0.86	0.81
Belgium (French)	0.90	73	0.88	0.87	0.90	0.88	0.73
Bulgaria	0.87	66	0.75	0.82	0.85	0.85	0.79
Canada	0.89	70	0.81	0.84	0.87	0.88	0.78
Chile	0.86	65	0.79	0.82	0.82	0.86	0.74
Chinese Taipei	0.94	80	0.91	0.88	0.93	0.89	0.86
Czech Republic	0.91	73	0.82	0.88	0.87	0.89	0.82
Denmark	0.89	69	0.81	0.80	0.89	0.85	0.79
Egypt	0.74	50	0.80	0.66	0.73	0.74	0.60
England	0.90	72	0.80	0.87	0.89	0.90	0.78
Finland	0.92	76	0.86	0.83	0.91	0.90	0.84
France	0.84	62	0.77	0.63	0.89	0.88	0.74
Georgia	0.84	61	0.73	0.68	0.84	0.82	0.82
Germany	0.87	66	0.81	0.75	0.84	0.87	0.78
Hong Kong SAR	0.94	81	0.90	0.92	0.91	0.87	0.89
Hungary	0.89	69	0.80	0.83	0.87	0.85	0.80
Iran, Islamic Rep. of	0.72	52	0.76	0.69	0.81	0.84	0.45
Ireland	0.90	72	0.80	0.87	0.86	0.89	0.82
Israel	0.91	74	0.84	0.85	0.89	0.88	0.84
Italy	0.89	69	0.78	0.77	0.89	0.86	0.85
Kazakhstan	0.87	66	0.77	0.80	0.86	0.81	0.81
Kuwait	0.81	59	0.74	0.75	0.85	0.70	0.78
Latvia	0.85	62	0.76	0.76	0.75	0.84	0.82
Lithuania	0.87	65	0.81	0.65	0.85	0.87	0.83
Macao SAR	0.91	74	0.88	0.89	0.87	0.82	0.86
Malta	0.88	68	0.80	0.85	0.83	0.85	0.79
Morocco	0.85	63	0.77	0.75	0.85	0.82	0.78
Netherlands	0.87	66	0.75	0.77	0.86	0.85	0.84
New Zealand	0.88	69	0.78	0.81	0.88	0.90	0.77
Northern Ireland	0.89	70	0.82	0.87	0.86	0.89	0.73
Norway (5)	0.89	70	0.74	0.80	0.88	0.88	0.87
Oman	0.82	60	0.77	0.71	0.87	0.83	0.67
Poland	0.92	77	0.89	0.88	0.88	0.88	0.87
Portugal	0.88	67	0.82	0.81	0.87	0.83	0.78
Qatar	0.88	68	0.73	0.84	0.86	0.88	0.80
Russian Federation	0.85	63	0.79	0.72	0.81	0.83	0.80
Saudi Arabia	0.86	65	0.88	0.78	0.76	0.78	0.84
Singapore	0.96	85	0.91	0.92	0.94	0.94	0.92
Slovak Republic	0.90	71	0.81	0.80	0.88	0.87	0.85
Slovenia	0.90	70	0.82	0.78	0.87	0.87	0.84
South Africa	0.90	71	0.79	0.87	0.85	0.87	0.83
Spain	0.85	62	0.79	0.75	0.83	0.85	0.71
Sweden	0.86	64	0.81	0.69	0.87	0.85	0.78
Trinidad and Tobago	0.91	74	0.83	0.87	0.92	0.88	0.80
United Arab Emirates	0.87	66	0.81	0.77	0.85	0.85	0.77
United States	0.90	72	0.84	0.89	0.87	0.87	0.77
Benchmarking Participants							
Buenos Aires, Argentina	0.75	50	0.74	0.71	0.78	0.69	0.63
Ontario, Canada	0.90	71	0.79	0.86	0.89	0.90	0.76
Quebec, Canada	0.87	66	0.75	0.71	0.88	0.88	0.81
Denmark (3)	0.89	70	0.83	0.80	0.87	0.88	0.79
Norway (4)	0.91	74	0.84	0.84	0.90	0.90	0.82
Moscow City, Russian Fed.	0.85	62	0.78	0.77	0.79	0.85	0.75
Eng/Afr/Zulu - RSA (5)	0.91	74	0.74	0.90	0.92	0.90	0.81
Andalusia, Spain	0.83	61	0.78	0.78	0.80	0.87	0.65
Madrid, Spain	0.88	68	0.84	0.84	0.77	0.83	0.85
Abu Dhabi, UAE	0.89	69	0.85	0.80	0.88	0.86	0.77
Dubai, UAE	0.89	69	0.81	0.81	0.88	0.87	0.77

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Teacher Job Satisfaction Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.05	0.00	0.00
Austria	0.00	0.00	0.00
Azerbaijan	0.06	0.00	0.00
Bahrain	0.08	0.01	0.00
Belgium (Flemish)	0.01	0.00	0.00
Belgium (French)	0.09	0.01	0.01
Bulgaria	0.05	0.00	0.00
Canada	0.00	0.00	0.00
Chile	-0.01	0.00	0.00
Chinese Taipei	-0.01	0.00	0.00
Czech Republic	0.03	0.00	0.00
Denmark	0.02	0.00	0.00
Egypt	0.00	0.00	0.00
England	0.00	0.00	0.00
Finland	-0.03	0.00	0.00
France	0.02	0.00	0.00
Georgia	0.04	0.00	0.00
Germany	0.10	0.01	0.01
Hong Kong SAR	0.01	0.00	0.00
Hungary	0.04	0.00	0.00
Iran, Islamic Rep. of	0.06	0.00	0.00
Ireland	0.03	0.00	0.00
Israel	-0.04	0.00	0.01
Italy	-0.01	0.00	0.00
Kazakhstan	0.08	0.01	0.00
Kuwait	-0.07	0.01	0.01
Latvia	0.09	0.01	0.01
Lithuania	0.10	0.01	0.01
Macao SAR	0.09	0.01	0.01
Malta	0.05	0.00	0.01
Morocco	0.16	0.03	0.02
Netherlands	-0.02	0.00	0.01
New Zealand	0.08	0.01	0.00
Northern Ireland	-0.01	0.00	0.00
Norway (5)	0.04	0.00	0.00
Oman	0.01	0.00	0.00
Poland	-0.01	0.00	0.00
Portugal	0.05	0.00	0.00
Qatar	-0.08	0.01	0.00
Russian Federation	0.02	0.00	0.00
Saudi Arabia	0.15	0.02	0.02
Singapore	-0.02	0.00	0.00
Slovak Republic	0.01	0.00	0.00
Slovenia	-0.01	0.00	0.00
South Africa	-0.03	0.00	0.03
Spain	0.07	0.01	0.00
Sweden	0.01	0.00	0.00
Trinidad and Tobago	0.03	0.00	0.00
United Arab Emirates	-0.03	0.00	0.00
United States	0.09	0.01	0.01
International Median	0.02	0.00	0.00
Benchmarking Participants			
Buenos Aires, Argentina	0.06	0.00	0.00
Ontario, Canada	0.02	0.00	0.00
Quebec, Canada	-0.06	0.00	0.00
Denmark (3)	0.01	0.00	0.00
Norway (4)	0.03	0.00	0.00
Moscow City, Russian Fed.	-0.02	0.00	0.00
Eng/Afr/Zulu - RSA (5)	-0.15	0.02	0.02
Andalusia, Spain	0.02	0.00	0.00
Madrid, Spain	0.11	0.01	0.01
Abu Dhabi, UAE	-0.08	0.01	0.01
Dubai, UAE	-0.02	0.00	0.00

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016