

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 <li style="background-color: #f4a460;">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 <li style="background-color: #f4a460;">3) 26-50 4) 51-100 <li style="background-color: #f4a460;">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 <li style="background-color: #f4a460;">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 <li style="background-color: #f4a460;">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 <li style="background-color: #f4a460;">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
ASDH0CCP	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.