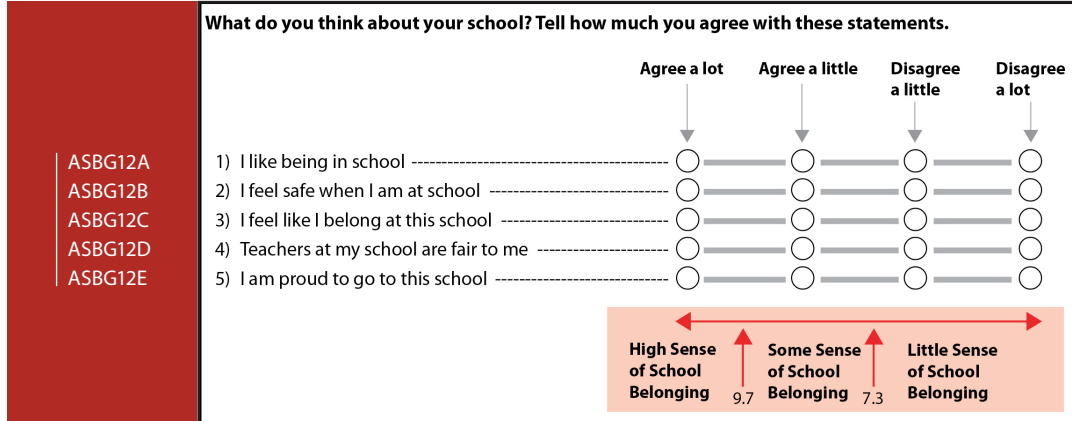


Students' Sense of School Belonging Scale

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