

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

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
T ATBG08A T ATBG08B T ATBG08C T ATBG08D T ATBG08E ATBG08F ATBG08G ATBG08H	1) This school is located in a safe neighborhood -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	2) I feel safe at this school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	3) This school's security policies and practices are sufficient -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	4) The students behave in an orderly manner -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5) The students are respectful of the teachers -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	6) The students respect school property -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	7) This school has clear rules about student conduct ----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	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

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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