

PIRLS 2011

The PIRLS 2011 Safe and Orderly School Scale

The Safe and Orderly School (SOS) scale was created based on teachers' degree of agreement with the five statements described below. See [Creating and Interpreting TIMSS and PIRLS 2011 Context Questionnaire Scales](#) for more information on how the scales were formed.

Exhibit 1: Items in the PIRLS 2011 Safe and Orderly School Scale

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
ATBG07A	1) This school is located in a safe neighborhood	○	○	○	○
ATBG07B	2) I feel safe at this school	○	○	○	○
ATBG07C	3) This school's security policies and practices are sufficient	○	○	○	○
ATBG07D	4) The students behave in an orderly manner	○	○	○	○
ATBG07E	5) The students are respectful of the teachers	○	○	○	○

Exhibit 2: Item Parameters for the PIRLS 2011 Safe and Orderly School Scale¹

Item	delta	tau_1	tau_2
ATBG07A	-2.29397	-1.01786	1.01786
ATBG07B	-3.36388	-1.29740	1.2974
ATBG07C	-2.19525	-1.33713	1.33713
ATBG07D	-0.93115	-1.85667	1.85667
ATBG07E	-1.36905	-1.87722	1.87722

¹ For the purpose of scaling, the categories "Disagree a little" and "Disagree a lot" were combined because there were very few respondents in each of these categories.

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

$$A = 10.19314$$

$$B = 1.01379$$

$$\text{Transformed Scale Score} = 10.19314 + 1.01379 \cdot \text{Logit Scale Score}$$

Exhibit 4: Equivalence Table of the Raw Score and the Transformed Scale Score

Raw Score	Transformed Scale Score	Cutpoint	Raw Score	Transformed Scale Score	Cutpoint
0	3.97202		6	8.61033	
1	5.37377		7	9.31726	
2	6.18020	6.2	8	10.15503	10.1
3	6.81846		9	11.15980	
4	7.40326		10	12.67577	
5	7.98600				

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Safe and Orderly School Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG07A	ATBG07B	ATBG07C	ATBG07D	ATBG07E
Australia	0.84	61	0.76	0.79	0.70	0.84	0.82
Austria	0.75	51	0.78	0.71	0.70	0.70	0.67
Azerbaijan	0.69	46	0.69	0.72	0.70	0.59	0.68
Belgium (French)	0.82	60	0.79	0.82	0.69	0.78	0.77
Bulgaria	0.77	54	0.52	0.75	0.79	0.81	0.77
Canada	0.81	58	0.69	0.75	0.74	0.82	0.81
Chinese Taipei	0.82	59	0.78	0.83	0.80	0.67	0.73
Colombia	0.81	58	0.82	0.85	0.79	0.63	0.69
Croatia	0.72	50	0.71	0.74	0.71	0.70	0.68
Czech Republic	0.75	52	0.57	0.74	0.73	0.77	0.76
Denmark	0.75	52	0.63	0.62	0.70	0.83	0.81
England	0.76	53	0.66	0.71	0.61	0.82	0.80
Finland	0.80	56	0.73	0.76	0.67	0.82	0.75
France	0.82	59	0.76	0.79	0.76	0.78	0.75
Georgia	0.73	49	0.74	0.79	0.79	0.58	0.56
Germany	0.80	57	0.72	0.73	0.76	0.80	0.74
Hong Kong SAR	0.73	49	0.42	0.72	0.72	0.80	0.79
Hungary	0.77	53	0.71	0.81	0.69	0.71	0.71
Indonesia	0.71	50	0.61	0.63	0.68	0.83	0.76
Iran, Islamic Rep. of	0.74	50	0.67	0.80	0.73	0.71	0.62
Ireland	0.80	58	0.69	0.75	0.70	0.86	0.81
Israel	0.79	55	0.69	0.75	0.67	0.82	0.77

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Safe and Orderly School Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG07A	ATBG07B	ATBG07C	ATBG07D	ATBG07E
Italy	0.74	49	0.78	0.81	0.74	0.56	0.59
Lithuania	0.78	54	0.57	0.80	0.78	0.75	0.75
Malta	0.73	49	0.52	0.72	0.65	0.79	0.78
Morocco	0.82	59	0.80	0.86	0.80	0.72	0.65
Netherlands	0.77	51	0.80	0.50	0.71	0.79	0.75
New Zealand	0.81	58	0.69	0.73	0.71	0.84	0.82
Northern Ireland	0.75	52	0.62	0.70	0.71	0.79	0.78
Norway	0.69	46	0.46	0.46	0.59	0.89	0.85
Oman	0.78	53	0.72	0.76	0.75	0.73	0.69
Poland	0.75	50	0.70	0.66	0.71	0.76	0.71
Portugal	0.83	60	0.79	0.83	0.76	0.79	0.69
Qatar	0.66	43	0.41	0.69	0.61	0.76	0.75
Romania	0.81	58	0.72	0.78	0.79	0.79	0.71
Russian Federation	0.81	57	0.76	0.81	0.77	0.73	0.70
Saudi Arabia	0.75	50	0.68	0.71	0.71	0.72	0.73
Singapore	0.81	58	0.73	0.79	0.75	0.77	0.76
Slovak Republic	0.69	46	0.46	0.76	0.68	0.72	0.73
Slovenia	0.81	58	0.70	0.72	0.76	0.80	0.81
Spain	0.84	61	0.75	0.79	0.76	0.80	0.81
Sweden	0.84	62	0.70	0.75	0.80	0.85	0.83
Trinidad and Tobago	0.84	61	0.80	0.84	0.75	0.77	0.75
United Arab Emirates	0.73	49	0.57	0.69	0.69	0.78	0.75
United States	0.84	61	0.77	0.79	0.75	0.84	0.78
Sixth Grade Participants							
Botswana	0.81	57	0.74	0.81	0.71	0.73	0.77
Honduras	0.82	58	0.79	0.85	0.74	0.71	0.73
Kuwait	0.82	59	0.64	0.82	0.81	0.80	0.75
Morocco	0.86	65	0.83	0.88	0.78	0.80	0.73
Benchmarking Participants							
Alberta, Canada	0.80	58	0.66	0.76	0.73	0.82	0.82
Ontario, Canada	0.83	60	0.72	0.78	0.78	0.80	0.79
Quebec, Canada	0.82	59	0.70	0.78	0.70	0.82	0.82
Maltese - Malta	0.76	52	0.58	0.76	0.68	0.79	0.77
Eng/Afr (5) - RSA ^a	0.79	55	0.80	0.82	0.63	0.74	0.71
Andalusia, Spain	0.85	63	0.77	0.79	0.75	0.81	0.83
Abu Dhabi, UAE	0.72	48	0.57	0.66	0.73	0.76	0.73
Dubai, UAE	0.69	46	0.51	0.65	0.62	0.79	0.79
Florida, US	0.84	62	0.80	0.80	0.71	0.83	0.79

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Safe and Orderly School Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG07A	ATBG07B	ATBG07C	ATBG07D	ATBG07E
prePIRLS Participants							
Botswana	0.77	52	0.78	0.83	0.75	0.63	0.59
Colombia	0.81	58	0.82	0.85	0.79	0.63	0.69
South Africa	0.79	55	0.74	0.82	0.75	0.68	0.72

◇ Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

Exhibit 6: Relationship Between the PIRLS 2011 Safe and Orderly School Scale and PIRLS 2011 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	0.03
Austria	0.10	0.01	0.01
Azerbaijan	0.07	0.00	0.00
Belgium (French)	0.18	0.03	0.03
Bulgaria	0.14	0.02	0.02
Canada	0.13	0.02	0.02
Chinese Taipei	0.03	0.00	0.01
Colombia	0.09	0.01	0.01
Croatia	-0.04	0.00	0.00
Czech Republic	0.01	0.00	0.00
Denmark	0.15	0.02	0.02
England	0.22	0.05	0.04
Finland	0.09	0.01	0.01
France	0.21	0.04	0.03
Georgia	0.07	0.00	0.00
Germany	0.16	0.03	0.01
Hong Kong SAR	0.03	0.00	0.00
Hungary	0.20	0.04	0.02
Indonesia	0.04	0.00	0.00
Iran, Islamic Rep. of	0.13	0.02	0.02
Ireland	0.18	0.03	0.04
Israel	0.11	0.01	0.02
Italy	0.10	0.01	0.01
Lithuania	0.05	0.00	0.00
Malta	0.15	0.02	0.02
Morocco	0.15	0.02	0.03
Netherlands	0.16	0.03	0.03
New Zealand	0.26	0.07	0.05

Exhibit 6: Relationship Between the PIRLS 2011 Safe and Orderly School Scale and PIRLS 2011 Achievement (Continued)

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)	
Northern Ireland	0.12	0.02	0.02
Norway	0.06	0.00	0.00
Oman	0.07	0.00	0.01
Poland	-0.02	0.00	0.00
Portugal	0.12	0.01	0.01
Qatar	0.14	0.02	0.01
Romania	-0.01	0.00	0.01
Russian Federation	0.04	0.00	0.01
Saudi Arabia	0.14	0.02	0.03
Singapore	0.15	0.02	0.02
Slovak Republic	0.04	0.00	0.00
Slovenia	0.04	0.00	0.00
Spain	0.15	0.02	0.03
Sweden	0.17	0.03	0.03
Trinidad and Tobago	0.11	0.01	0.01
United Arab Emirates	0.17	0.03	0.01
United States	0.22	0.05	0.04
International Median	0.12	0.02	0.01
Sixth Grade Participants			
Botswana	0.21	0.04	0.04
Honduras	0.01	0.00	0.00
Kuwait	0.00	0.00	0.00
Morocco	0.09	0.01	0.01
Benchmarking Participants			
Alberta, Canada	0.19	0.04	0.03
Ontario, Canada	0.11	0.01	0.02
Quebec, Canada	0.07	0.01	0.01
Maltese - Malta	0.07	0.01	0.01
Eng/Afr (5) - RSA [◇]	0.37	0.14	0.11
Andalusia, Spain	0.18	0.03	0.03
Abu Dhabi, UAE	0.13	0.02	0.00
Dubai, UAE	0.09	0.01	0.00
Florida, US	0.21	0.05	0.05
prePIRLS Participants			
Botswana	0.20	0.04	0.03
Colombia	0.06	0.00	0.00
South Africa	0.10	0.01	0.01

◇ Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).