

PIRLS 2011

The PIRLS 2011 Students Bullied at School Scale

The Students Bullied at School (SBS) scale was created based on students' responses to how often they experienced six bullying behaviors 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 Students Bullied at School Scale

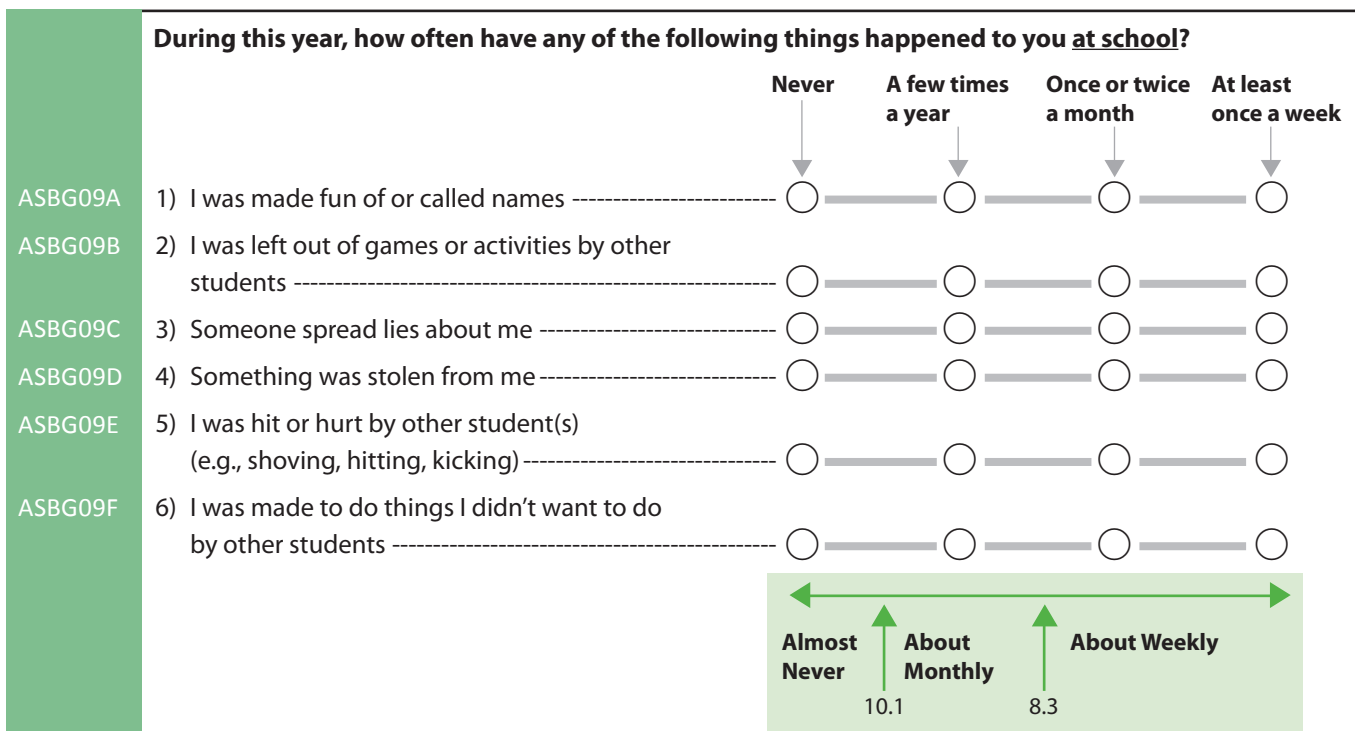


Exhibit 2: Item Parameters for the PIRLS 2011 Students Bullied at School Scale

Item	delta	tau_1	tau_2	tau_3
ASBG09A	-0.40028	0.28337	-0.29489	0.01152
ASBG09B	-0.65667	0.20370	0.09031	-0.29401
ASBG09C	-0.69308	0.15638	-0.07310	-0.08328
ASBG09D	-1.08761	0.39262	-0.21343	-0.17919
ASBG09E	-0.73600	0.10595	-0.16089	0.05494
ASBG09F	-1.30323	0.47879	0.18391	-0.66270

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

$$A = 10.07282$$

$$B = 2.14463$$

$$\text{Transformed Scale Score} = 10.07282 + 2.14463 \cdot \text{Logit Scale Score}$$

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	3.75892		10	8.55138	
1	5.32504		11	8.81431	
2	6.01793		12	9.09792	
3	6.49022		13	9.40288	
4	6.86488		14	9.75018	
5	7.19070		15	10.14726	10.1
6	7.48584		16	10.66766	
7	7.76203		17	11.44508	
8	8.03167		18	13.28370	
9	8.29063	8.3			

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

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item					
			ASBG09A	ASBG09B	ASBG09C	ASBG09D	ASBG09E	ASBG09F
Australia	0.80	51	0.74	0.71	0.75	0.62	0.75	0.68
Austria	0.79	48	0.75	0.72	0.75	0.58	0.72	0.64
Azerbaijan	0.78	49	0.68	0.67	0.69	0.71	0.75	0.72
Belgium (French)	0.75	44	0.73	0.63	0.74	0.55	0.71	0.61
Bulgaria	0.68	40	0.68	0.43	0.72	0.60	0.73	0.61
Canada	0.80	50	0.74	0.69	0.76	0.64	0.74	0.67
Chinese Taipei	0.75	45	0.74	0.68	0.68	0.55	0.69	0.65
Colombia	0.74	43	0.66	0.67	0.69	0.63	0.69	0.61
Croatia	0.71	41	0.71	0.68	0.70	0.52	0.67	0.55
Czech Republic	0.75	45	0.73	0.61	0.76	0.57	0.69	0.65
Denmark	0.77	48	0.74	0.70	0.76	0.51	0.73	0.68
England	0.81	51	0.74	0.72	0.77	0.60	0.74	0.71
Finland	0.79	49	0.77	0.70	0.75	0.56	0.74	0.64
France	0.71	41	0.70	0.60	0.71	0.54	0.67	0.58
Georgia	0.69	42	0.64	0.51	0.72	0.62	0.70	0.66
Germany	0.76	46	0.74	0.67	0.73	0.53	0.75	0.60
Hong Kong SAR	0.76	46	0.66	0.68	0.78	0.58	0.68	0.69
Hungary	0.75	45	0.71	0.70	0.74	0.54	0.72	0.60

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

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item					
			ASBG09A	ASBG09B	ASBG09C	ASBG09D	ASBG09E	ASBG09F
Indonesia	0.69	39	0.59	0.59	0.67	0.63	0.68	0.59
Iran, Islamic Rep. of	0.67	39	0.67	0.53	0.67	0.55	0.68	0.62
Ireland	0.80	50	0.74	0.71	0.76	0.64	0.74	0.65
Israel	–	–	–	–	–	–	–	–
Italy	0.72	42	0.70	0.64	0.71	0.57	0.66	0.58
Lithuania	0.75	45	0.75	0.64	0.72	0.56	0.72	0.60
Malta	0.74	43	0.67	0.65	0.72	0.60	0.67	0.63
Morocco	0.72	42	0.59	0.64	0.69	0.60	0.71	0.67
Netherlands	0.78	48	0.78	0.73	0.74	0.54	0.71	0.63
New Zealand	0.80	50	0.73	0.69	0.77	0.66	0.73	0.69
Northern Ireland	0.79	49	0.73	0.72	0.76	0.60	0.71	0.67
Norway	0.77	47	0.74	0.66	0.74	0.57	0.72	0.67
Oman	0.66	38	0.65	0.47	0.68	0.61	0.67	0.59
Poland	0.79	49	0.76	0.66	0.76	0.59	0.75	0.68
Portugal	0.75	45	0.73	0.64	0.73	0.57	0.74	0.59
Qatar	0.76	46	0.67	0.63	0.73	0.63	0.71	0.69
Romania	0.74	44	0.67	0.67	0.73	0.59	0.70	0.63
Russian Federation	0.69	40	0.75	0.49	0.72	0.48	0.74	0.56
Saudi Arabia	0.72	42	0.67	0.61	0.67	0.62	0.71	0.61
Singapore	0.74	44	0.61	0.63	0.74	0.63	0.70	0.65
Slovak Republic	0.77	47	0.73	0.68	0.74	0.59	0.72	0.65
Slovenia	0.80	50	0.73	0.73	0.76	0.65	0.72	0.66
Spain	0.74	44	0.70	0.65	0.71	0.54	0.71	0.65
Sweden	0.75	45	0.73	0.63	0.73	0.54	0.73	0.65
Trinidad and Tobago	0.69	39	0.64	0.59	0.68	0.60	0.69	0.54
United Arab Emirates	0.72	42	0.62	0.59	0.71	0.62	0.68	0.64
United States	0.79	49	0.73	0.70	0.76	0.65	0.72	0.64
Sixth Grade Participants								
Botswana	0.41	26	0.54	0.40	0.55	0.39	0.59	0.52
Honduras	0.76	46	0.64	0.66	0.71	0.63	0.72	0.68
Kuwait	0.75	45	0.68	0.64	0.71	0.61	0.72	0.67
Morocco	0.70	41	0.66	0.60	0.65	0.51	0.72	0.66
Benchmarking Participants								
Alberta, Canada	0.79	49	0.73	0.71	0.74	0.63	0.73	0.65
Ontario, Canada	0.79	49	0.72	0.67	0.75	0.62	0.73	0.70
Quebec, Canada	0.78	48	0.74	0.68	0.76	0.60	0.72	0.63
Maltese - Malta	0.73	43	0.67	0.65	0.72	0.59	0.67	0.63
Eng/Afr (5) - RSA ^o	0.74	43	0.64	0.62	0.69	0.60	0.70	0.68

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

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item					
			ASBG09A	ASBG09B	ASBG09C	ASBG09D	ASBG09E	ASBG09F
Andalusia, Spain	0.74	44	0.70	0.67	0.70	0.55	0.70	0.65
Abu Dhabi, UAE	0.71	41	0.63	0.58	0.71	0.61	0.66	0.66
Dubai, UAE	0.73	43	0.62	0.60	0.73	0.62	0.69	0.64
Florida, US	0.79	49	0.72	0.69	0.77	0.64	0.75	0.59
prePIRLS Participants								
Botswana	0.42	26	0.53	0.45	0.48	0.39	0.58	0.59
Colombia	0.74	43	0.66	0.67	0.69	0.62	0.69	0.61
South Africa	0.73	43	0.64	0.67	0.69	0.52	0.69	0.69

A dash (-) indicates that the item was not administered or comparable data was not available.

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

Exhibit 6: Relationship Between the PIRLS 2011 Students Bullied at 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	0.12	0.01	0.02
Austria	0.12	0.01	0.02
Azerbaijan	0.19	0.04	0.04
Belgium (French)	0.10	0.01	0.01
Bulgaria	0.16	0.02	0.02
Canada	0.18	0.03	0.04
Chinese Taipei	0.14	0.02	0.03
Colombia	0.13	0.02	0.03
Croatia	0.14	0.02	0.03
Czech Republic	0.12	0.02	0.03
Denmark	0.09	0.01	0.01
England	0.17	0.03	0.04
Finland	0.09	0.01	0.02
France	0.12	0.01	0.02
Georgia	0.25	0.06	0.06
Germany	0.14	0.02	0.03
Hong Kong SAR	0.12	0.01	0.02
Hungary	0.11	0.01	0.02
Indonesia	0.06	0.00	0.00
Iran, Islamic Rep. of	0.01	0.00	0.00
Ireland	0.23	0.05	0.05
Israel	N/A	N/A	N/A
Italy	0.12	0.01	0.02

Exhibit 6: Relationship Between the PIRLS 2011 Students Bullied at 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)	
Lithuania	0.19	0.04	0.05
Malta	0.18	0.03	0.03
Morocco	0.14	0.02	0.02
Netherlands	0.09	0.01	0.02
New Zealand	0.22	0.05	0.05
Northern Ireland	0.14	0.02	0.03
Norway	0.10	0.01	0.01
Oman	0.13	0.02	0.01
Poland	0.11	0.01	0.02
Portugal	0.12	0.01	0.02
Qatar	0.22	0.05	0.06
Romania	0.20	0.04	0.03
Russian Federation	0.12	0.01	0.02
Saudi Arabia	0.18	0.03	0.04
Singapore	0.18	0.03	0.03
Slovak Republic	0.15	0.02	0.03
Slovenia	0.13	0.02	0.04
Spain	0.14	0.02	0.02
Sweden	0.14	0.02	0.03
Trinidad and Tobago	0.15	0.02	0.02
United Arab Emirates	0.17	0.03	0.03
United States	0.16	0.02	0.03
International Median	0.14	0.02	0.03
Sixth Grade Participants			
Botswana	0.12	0.02	0.02
Honduras	0.16	0.02	0.03
Kuwait	0.26	0.07	0.10
Morocco	0.14	0.02	0.03
Benchmarking Participants			
Alberta, Canada	0.17	0.03	0.03
Ontario, Canada	0.20	0.04	0.05
Quebec, Canada	0.19	0.04	0.04
Maltese - Malta	0.22	0.05	0.05
Eng/Afr (5) - RSA ^o	0.36	0.13	0.15
Andalusia, Spain	0.12	0.01	0.02
Abu Dhabi, UAE	0.14	0.02	0.02
Dubai, UAE	0.20	0.04	0.05
Florida, US	0.15	0.02	0.03

Exhibit 6: Relationship Between the PIRLS 2011 Students Bullied at 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)	
prePIRLS Participants			
Botswana	0.16	0.03	0.03
Colombia	0.13	0.02	0.04
South Africa	0.24	0.06	0.06

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