

Student Bullying Scale

The *Student Bullying* (SB) scale was created based on students' responses to how often they experienced the eight bullying behaviors described below.

Items in the PIRLS 2016 *Student Bullying* Scale

During this school year, how often have other students from your school done any of the following things to you (including through texting or the Internet)?

	Never	A few times a year	Once or twice a month	At least once a week
ASBG13A 1) Made fun of me or called me names-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13B 2) Left me out of their games or activities-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13C 3) Spread lies about me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13D 4) Stole something from me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13E 5) Hit or hurt me (e.g., shoving, hitting, kicking)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13F 6) Made me do things I didn't want to do-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13G 7) Shared embarrassing information about me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG13H 8) Threatened me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Almost Never About Monthly About Weekly

9.5 7.9

Item Parameters for the PIRLS 2016 Student Bullying Scale

Item	delta	tau_1	tau_2	tau_3	Infit
ASBG13A	0.47927	0.27533	-0.38571	0.11038	1.05
ASBG13B	0.28864	-0.00106	-0.07440	0.07546	1.16
ASBG13C	0.17327	0.02052	-0.09847	0.07795	0.96
ASBG13D	-0.31380	0.27095	-0.16042	-0.11053	1.12
ASBG13E	0.17865	0.00530	-0.18154	0.17624	1.02
ASBG13F	-0.30137	0.21016	0.06970	-0.27986	0.99
ASBG13G	-0.19155	0.16906	-0.08285	-0.08621	0.94
ASBG13H	-0.31311	0.37439	0.00776	-0.38215	0.94

Scale Transformation Constants for the PIRLS 2016 Student Bullying Scale

Scale Transformation Constants	
A = 7.902851	Transformed Scale Score = 7.902851 + 1.812747 • Logit Scale Score
B = 1.812747	

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 Student Bullying Scale

Raw Score	Transformed Scale Score	Cutpoint
0	3.27794	
1	4.83400	
2	5.48907	
3	5.91604	
4	6.24033	
5	6.50472	
6	6.74041	
7	6.95212	
8	7.14715	
9	7.33106	
10	7.50803	
11	7.68141	
12	7.84988	7.9
13	8.02779	
14	8.20567	
15	8.39019	
16	8.58463	
17	8.79311	
18	9.02099	
19	9.27097	
20	9.56469	9.5
21	9.92468	
22	10.40216	
23	11.14752	
24	12.92197	

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 Student Bullying Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			ASBG13A	ASBG13B	ASBG13C	ASBG13D	ASBG13E	ASBG13F	ASBG13G	ASBG13H
Australia	0.86	50	0.72	0.68	0.75	0.64	0.72	0.68	0.73	0.72
Austria	0.82	45	0.69	0.65	0.73	0.57	0.69	0.67	0.69	0.67
Azerbaijan	0.80	43	0.63	0.60	0.69	0.62	0.66	0.69	0.75	0.63
Bahrain	0.84	46	0.63	0.65	0.73	0.64	0.70	0.68	0.69	0.71
Belgium (Flemish)	0.84	47	0.72	0.68	0.74	0.53	0.72	0.67	0.70	0.67
Belgium (French)	0.83	45	0.69	0.61	0.72	0.60	0.70	0.66	0.70	0.72
Bulgaria	0.81	44	0.66	0.53	0.74	0.52	0.73	0.67	0.73	0.70
Canada	0.85	49	0.71	0.66	0.75	0.62	0.72	0.68	0.72	0.72
Chile	0.84	49	0.69	0.69	0.72	0.64	0.74	0.74	0.66	0.73
Chinese Taipei	0.84	47	0.72	0.69	0.73	0.51	0.69	0.67	0.76	0.71
Czech Republic	0.82	44	0.72	0.55	0.73	0.58	0.66	0.66	0.75	0.65
Denmark	0.84	48	0.70	0.68	0.74	0.54	0.72	0.71	0.71	0.72
Egypt	0.84	49	0.66	0.65	0.73	0.66	0.72	0.74	0.74	0.67
England	0.85	49	0.73	0.68	0.77	0.56	0.72	0.68	0.71	0.73
Finland	0.84	48	0.73	0.67	0.75	0.54	0.72	0.67	0.74	0.71
France	0.80	43	0.68	0.61	0.72	0.53	0.67	0.62	0.68	0.69
Georgia	0.82	47	0.69	0.57	0.73	0.66	0.69	0.72	0.72	0.72
Germany	0.82	45	0.65	0.64	0.72	0.56	0.71	0.67	0.71	0.67
Hong Kong SAR	0.83	46	0.65	0.65	0.76	0.54	0.66	0.74	0.63	0.74
Hungary	0.79	41	0.64	0.64	0.69	0.52	0.65	0.64	0.67	0.67
Iran, Islamic Rep. of	0.82	45	0.66	0.57	0.72	0.62	0.71	0.66	0.71	0.72
Ireland	0.84	47	0.71	0.67	0.75	0.58	0.69	0.66	0.70	0.70
Israel	-	-	-	-	-	-	-	-	-	-
Italy	0.81	42	0.69	0.63	0.70	0.54	0.64	0.63	0.70	0.65
Kazakhstan	0.81	45	0.65	0.58	0.72	0.62	0.69	0.65	0.74	0.68
Kuwait	0.77	39	0.61	0.62	0.64	0.56	0.64	0.61	0.67	0.63
Latvia	0.84	47	0.73	0.61	0.76	0.54	0.74	0.66	0.75	0.69
Lithuania	0.81	44	0.69	0.59	0.72	0.57	0.68	0.64	0.71	0.68
Macao SAR	0.78	40	0.57	0.59	0.71	0.55	0.63	0.68	0.58	0.71
Malta	0.86	50	0.72	0.66	0.76	0.64	0.71	0.72	0.74	0.73
Morocco	0.80	41	0.61	0.62	0.69	0.60	0.66	0.63	0.68	0.66
Netherlands	0.83	46	0.73	0.69	0.73	0.54	0.70	0.67	0.68	0.68
New Zealand	0.87	52	0.73	0.70	0.76	0.66	0.73	0.71	0.76	0.71
Northern Ireland	0.83	47	0.73	0.68	0.74	0.57	0.69	0.66	0.70	0.69
Norway (5)	0.84	48	0.74	0.69	0.76	0.52	0.70	0.68	0.72	0.71
Oman	0.82	44	0.64	0.57	0.70	0.65	0.68	0.67	0.71	0.67
Poland	0.85	50	0.70	0.69	0.76	0.58	0.72	0.69	0.79	0.73
Portugal	0.83	46	0.69	0.62	0.73	0.56	0.74	0.65	0.70	0.71
Qatar	0.85	49	0.67	0.61	0.73	0.67	0.72	0.73	0.74	0.73
Russian Federation	0.79	42	0.69	0.44	0.72	0.50	0.72	0.61	0.76	0.66
Saudi Arabia	0.87	53	0.68	0.66	0.74	0.67	0.75	0.75	0.78	0.75
Singapore	0.83	47	0.65	0.65	0.73	0.59	0.70	0.68	0.72	0.72
Slovak Republic	0.82	46	0.70	0.59	0.74	0.55	0.68	0.68	0.73	0.71
Slovenia	0.84	47	0.71	0.63	0.77	0.57	0.69	0.66	0.76	0.69
South Africa	0.79	40	0.60	0.58	0.65	0.56	0.65	0.68	0.68	0.64
Spain	0.82	44	0.66	0.63	0.71	0.55	0.69	0.67	0.65	0.71
Sweden	0.84	48	0.71	0.67	0.77	0.59	0.71	0.68	0.70	0.71
Trinidad and Tobago	0.80	42	0.63	0.56	0.69	0.60	0.70	0.59	0.72	0.66
United Arab Emirates	0.84	47	0.65	0.62	0.72	0.66	0.72	0.71	0.71	0.72
United States	0.85	49	0.72	0.65	0.76	0.66	0.70	0.65	0.73	0.72
Benchmarking Participants										
Buenos Aires, Argentina	0.81	47	0.66	0.66	0.74	0.61	0.70	-	0.72	0.70
Ontario, Canada	0.85	49	0.70	0.67	0.76	0.63	0.72	0.69	0.71	0.71
Quebec, Canada	0.84	47	0.74	0.63	0.74	0.55	0.70	0.64	0.74	0.73
Denmark (3)	0.83	47	0.69	0.63	0.73	0.52	0.71	0.69	0.70	0.76
Norway (4)	0.85	48	0.72	0.67	0.76	0.56	0.71	0.70	0.71	0.73
Moscow City, Russian Fed.	0.83	46	0.73	0.51	0.73	0.57	0.73	0.66	0.77	0.70
Enq/Afr/Zulu - RSA (5)	0.78	39	0.59	0.55	0.65	0.52	0.67	0.66	0.69	0.67
Andalusia, Spain	0.80	42	0.64	0.62	0.70	0.54	0.71	0.65	0.64	0.69
Madrid, Spain	0.80	42	0.65	0.65	0.69	0.51	0.67	0.65	0.64	0.70
Abu Dhabi, UAE	0.85	48	0.64	0.62	0.72	0.66	0.71	0.74	0.72	0.73
Dubai, UAE	0.85	48	0.66	0.65	0.75	0.64	0.71	0.69	0.74	0.70

A dash (-) indicates comparable data not available.

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Relationship Between the PIRLS 2016 Student Bullying 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	0.03
Austria	0.13	0.02	0.03
Azerbaijan	0.13	0.02	0.03
Bahrain	0.22	0.05	0.05
Belgium (Flemish)	0.10	0.01	0.02
Belgium (French)	0.09	0.01	0.01
Bulgaria	0.12	0.01	0.02
Canada	0.13	0.02	0.03
Chile	0.19	0.04	0.06
Chinese Taipei	0.11	0.01	0.02
Czech Republic	0.11	0.01	0.02
Denmark	0.06	0.00	0.01
Egypt	0.10	0.01	0.01
England	0.14	0.02	0.03
Finland	0.12	0.01	0.02
France	0.14	0.02	0.03
Georgia	0.18	0.03	0.04
Germany	0.15	0.02	0.04
Hong Kong SAR	0.11	0.01	0.02
Hungary	0.12	0.02	0.03
Iran, Islamic Rep. of	0.01	0.00	0.00
Ireland	0.18	0.03	0.04
Israel	-	-	-
Italy	0.07	0.00	0.01
Kazakhstan	0.10	0.01	0.01
Kuwait	0.12	0.01	0.02
Latvia	0.18	0.03	0.04
Lithuania	0.19	0.04	0.04
Macao SAR	0.11	0.01	0.02
Malta	0.16	0.02	0.04
Morocco	0.15	0.02	0.03
Netherlands	0.07	0.00	0.01
New Zealand	0.17	0.03	0.04
Northern Ireland	0.13	0.02	0.03
Norway (5)	0.09	0.01	0.02
Oman	0.15	0.02	0.03
Poland	0.18	0.03	0.04
Portugal	0.10	0.01	0.01
Qatar	0.20	0.04	0.06
Russian Federation	0.11	0.01	0.02
Saudi Arabia	0.25	0.06	0.08
Singapore	0.18	0.03	0.04
Slovak Republic	0.14	0.02	0.03
Slovenia	0.09	0.01	0.02
South Africa	0.17	0.03	0.04
Spain	0.14	0.02	0.03
Sweden	0.11	0.01	0.02
Trinidad and Tobago	0.12	0.01	0.02
United Arab Emirates	0.22	0.05	0.06
United States	0.13	0.02	0.03
International Median	0.13	0.02	0.03
Benchmarking Participants			
Buenos Aires, Argentina	0.14	0.02	0.03
Ontario, Canada	0.14	0.02	0.03
Quebec, Canada	0.08	0.01	0.01
Denmark (3)	0.12	0.01	0.02
Norway (4)	0.07	0.00	0.01
Moscow City, Russian Fed.	0.15	0.02	0.02
Eng/Afr/Zulu - RSA (5)	0.19	0.04	0.05
Andalusia, Spain	0.11	0.01	0.02
Madrid, Spain	0.09	0.01	0.02
Abu Dhabi, UAE	0.23	0.05	0.07
Dubai, UAE	0.16	0.03	0.05

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