

Student Bullying Scale, Fourth Grade

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 TIMSS 2015 Student Bullying Scale, Fourth Grade

		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
ASBG12A	1) Made fun of me or called me names-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12B	2) Left me out of their games or activities-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12C	3) Spread lies about me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12D	4) Stole something from me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12E	5) Hit or hurt me (e.g., <i>shoving, hitting, kicking</i>)-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12F	6) Made me do things I didn't want to do-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12G	7) Shared embarrassing information about me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASBG12H	8) Threatened me-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

←-----→

Almost Never About Monthly About Weekly

9.6 8.0

Item Parameters for the TIMSS 2015 Student Bullying Scale, Fourth Grade

Item	delta	tau_1	tau_2	tau_3	Infit
ASBG12A	0.46618	0.24420	-0.31625	0.07205	1.09
ASBG12B	0.28450	0.07329	-0.01726	-0.05603	1.19
ASBG12C	0.16218	0.09498	-0.07059	-0.02439	0.96
ASBG12D	-0.27878	0.38164	-0.13690	-0.24474	1.12
ASBG12E	0.15176	0.07103	-0.16425	0.09322	1.01
ASBG12F	-0.31617	0.31731	0.10905	-0.42636	0.97
ASBG12G	-0.16420	0.27826	-0.07753	-0.20073	0.94
ASBG12H	-0.30547	0.43020	0.06771	-0.49791	0.94

Scale Transformation Constants for the TIMSS 2015 Student Bullying Scale, Fourth Grade

Scale Transformation Constants

A = 7.986312

B = 1.843301

Transformed Scale Score = 7.986312 + 1.843301 • Logit Scale Score

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015



**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS
2015 Student Bullying Scale, Fourth Grade**

Raw Score	Transformed Scale Score	Cutpoint
0	3.45583	
1	4.98767	
2	5.62711	
3	6.04410	
4	6.36087	
5	6.61949	
6	6.85019	
7	7.05738	
8	7.24822	
9	7.42814	
10	7.60130	
11	7.77094	
12	7.93577	8.0
13	8.10996	
14	8.28412	
15	8.46483	
16	8.65532	
17	8.85956	
18	9.08276	
19	9.32730	
20	9.61409	9.6
21	9.96469	
22	10.42778	
23	11.14791	
24	12.87429	

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015



Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2015 Student Bullying Scale, Fourth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			ASBG12A	ASBG12B	ASBG12C	ASBG12D	ASBG12E	ASBG12F	ASBG12G	ASBG12H
Australia	0.87	52	0.74	0.68	0.78	0.63	0.73	0.71	0.76	0.73
Bahrain	0.85	48	0.63	0.61	0.71	0.66	0.74	0.72	0.72	0.74
Belgium (Flemish)	0.86	50	0.76	0.71	0.74	0.50	0.73	0.63	0.80	0.74
Bulgaria	0.83	47	0.70	0.50	0.73	0.59	0.75	0.70	0.76	0.72
Canada	0.87	52	0.73	0.68	0.77	0.65	0.73	0.71	0.74	0.74
Chile	0.86	52	0.70	0.67	0.77	0.64	0.76	0.71	0.76	0.75
Chinese Taipei	0.84	47	0.71	0.66	0.74	0.53	0.67	0.68	0.75	0.71
Croatia	0.84	49	0.64	0.68	0.75	0.56	0.71	0.70	0.78	0.72
Cyprus	0.85	48	0.71	0.63	0.74	0.62	0.73	0.71	0.68	0.71
Czech Republic	0.84	47	0.75	0.60	0.76	0.55	0.67	0.69	0.75	0.70
Denmark	0.84	48	0.73	0.65	0.76	0.50	0.72	0.69	0.73	0.74
England	0.86	50	0.72	0.67	0.77	0.60	0.74	0.70	0.74	0.70
Finland	0.87	52	0.74	0.69	0.79	0.61	0.70	0.68	0.78	0.76
France	0.81	43	0.65	0.63	0.73	0.52	0.68	0.61	0.71	0.68
Georgia	0.81	48	0.57	0.53	0.74	0.70	0.67	0.76	0.77	0.76
Germany	0.84	48	0.69	0.66	0.75	0.59	0.71	0.72	0.72	0.70
Hong Kong SAR	0.83	47	0.58	0.65	0.74	0.59	0.67	0.74	0.73	0.75
Hungary	0.81	44	0.67	0.61	0.73	0.51	0.72	0.66	0.66	0.69
Indonesia	0.83	47	0.61	0.49	0.72	0.69	0.71	0.72	0.77	0.75
Iran, Islamic Rep. of	0.79	42	0.60	0.50	0.70	0.57	0.68	0.70	0.69	0.71
Ireland	0.85	49	0.72	0.69	0.77	0.59	0.70	0.69	0.73	0.71
Italy	0.80	42	0.68	0.60	0.69	0.55	0.65	0.63	0.68	0.68
Japan	0.84	49	0.73	0.72	0.71	0.62	0.71	0.74	0.68	0.65
Jordan	0.86	52	0.66	0.63	0.71	0.69	0.74	0.76	0.78	0.77
Kazakhstan	0.82	47	0.66	0.59	0.73	0.66	0.71	0.72	0.72	0.68
Korea, Rep. of	0.81	44	0.68	0.65	0.71	0.51	0.71	0.70	0.69	0.66
Kuwait	0.82	44	0.61	0.58	0.68	0.61	0.71	0.70	0.70	0.72
Lithuania	0.83	46	0.69	0.62	0.74	0.60	0.71	0.68	0.70	0.66
Morocco	0.80	43	0.59	0.60	0.65	0.61	0.68	0.69	0.70	0.70
Netherlands	0.83	46	0.73	0.64	0.73	0.57	0.74	0.69	0.69	0.64
New Zealand	0.87	51	0.72	0.66	0.77	0.65	0.74	0.73	0.74	0.73
Northern Ireland	0.85	49	0.71	0.66	0.77	0.61	0.71	0.69	0.72	0.71
Norway (5)	0.86	50	0.71	0.66	0.77	0.58	0.71	0.72	0.79	0.71
Oman	0.81	44	0.63	0.55	0.70	0.66	0.67	0.68	0.70	0.67
Poland	0.86	51	0.70	0.66	0.77	0.62	0.74	0.70	0.81	0.72
Portugal	0.83	47	0.71	0.65	0.75	0.55	0.74	0.64	0.69	0.71
Qatar	0.87	52	0.64	0.66	0.75	0.69	0.74	0.74	0.77	0.75
Russian Federation	0.82	45	0.72	0.48	0.73	0.53	0.75	0.63	0.78	0.68
Saudi Arabia	0.87	53	0.68	0.61	0.75	0.69	0.76	0.76	0.78	0.77
Serbia	0.84	48	0.68	0.67	0.78	0.56	0.70	0.63	0.79	0.68
Singapore	0.85	48	0.64	0.66	0.77	0.61	0.69	0.71	0.75	0.73
Slovak Republic	0.85	49	0.70	0.63	0.74	0.60	0.73	0.69	0.76	0.72
Slovenia	0.85	49	0.71	0.67	0.76	0.59	0.69	0.70	0.78	0.72
South Africa (5)	0.80	42	0.59	0.62	0.68	0.58	0.66	0.69	0.71	0.66
Spain	0.83	46	0.65	0.64	0.71	0.58	0.71	0.70	0.67	0.74
Sweden	0.82	45	0.72	0.62	0.74	0.55	0.71	0.67	0.67	0.68
Turkey	0.80	43	0.59	0.65	0.69	0.57	0.66	0.64	0.71	0.70
United Arab Emirates	0.84	48	0.65	0.63	0.72	0.66	0.72	0.71	0.71	0.72
United States	0.86	50	0.74	0.69	0.77	0.64	0.70	0.66	0.73	0.72
Benchmarking Participants										
Buenos Aires, Argentina	0.86	50	0.68	0.69	0.74	0.63	0.74	0.70	0.74	0.72
Ontario, Canada	0.86	51	0.72	0.70	0.78	0.63	0.73	0.70	0.73	0.73
Quebec, Canada	0.86	50	0.75	0.65	0.74	0.62	0.71	0.69	0.74	0.75
Norway (4)	0.85	50	0.71	0.65	0.76	0.61	0.70	0.75	0.76	0.70
Abu Dhabi, UAE	0.85	48	0.65	0.63	0.70	0.68	0.72	0.72	0.71	0.73
Dubai, UAE	0.85	48	0.68	0.65	0.73	0.65	0.72	0.70	0.71	0.70
Florida, US	0.86	51	0.72	0.68	0.77	0.66	0.71	0.67	0.76	0.72

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Relationship Between the TIMSS 2015 Student Bullying Scale, Fourth Grade, and TIMSS 2015 Achievement

Country	Pearson's Correlation with Achievement				Variance in Achievement Accounted for by Difference Between Regions of the Scale (η^2)	
	(r)		(r ²)		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Australia	0.16	0.13	0.03	0.02	0.03	0.02
Bahrain	0.16	0.17	0.03	0.03	0.03	0.03
Belgium (Flemish)	0.04	0.05	0.00	0.00	0.01	0.01
Bulgaria	0.19	0.20	0.03	0.04	0.04	0.04
Canada	0.12	0.13	0.01	0.02	0.03	0.03
Chile	0.16	0.16	0.02	0.02	0.04	0.04
Chinese Taipei	0.07	0.06	0.00	0.00	0.01	0.01
Croatia	0.09	0.07	0.01	0.00	0.01	0.01
Cyprus	0.13	0.15	0.02	0.02	0.03	0.03
Czech Republic	0.11	0.09	0.01	0.01	0.02	0.01
Denmark	0.09	0.06	0.01	0.00	0.02	0.01
England	0.08	0.09	0.01	0.01	0.02	0.02
Finland	0.08	0.07	0.01	0.01	0.02	0.01
France	0.06	0.08	0.00	0.01	0.01	0.01
Georgia	0.19	0.16	0.04	0.03	0.05	0.03
Germany	0.09	0.13	0.01	0.02	0.02	0.03
Hong Kong SAR	0.08	0.06	0.01	0.00	0.01	0.00
Hungary	0.15	0.18	0.02	0.03	0.03	0.04
Indonesia	0.03	0.02	0.00	0.00	0.01	0.00
Iran, Islamic Rep. of	0.04	0.06	0.00	0.00	0.00	0.01
Ireland	0.15	0.12	0.02	0.01	0.04	0.03
Italy	0.07	0.05	0.00	0.00	0.01	0.01
Japan	0.09	0.06	0.01	0.00	0.02	0.01
Jordan	0.23	-	0.06	-	0.07	-
Kazakhstan	0.10	0.08	0.01	0.01	0.01	0.01
Korea, Rep. of	-0.02	-0.06	0.00	0.00	0.00	0.00
Kuwait	0.05	0.07	0.00	0.01	0.01	0.01
Lithuania	0.17	0.20	0.03	0.04	0.05	0.06
Morocco	0.16	0.14	0.03	0.02	0.03	0.03
Netherlands	0.05	0.10	0.00	0.01	0.01	0.02
New Zealand	0.13	0.12	0.02	0.01	0.03	0.02
Northern Ireland	0.12	0.06	0.01	0.00	0.03	0.01
Norway (5)	0.08	0.06	0.01	0.00	0.02	0.01
Oman	0.11	0.12	0.01	0.01	0.01	0.02
Poland	0.11	0.10	0.01	0.01	0.02	0.02
Portugal	0.07	0.05	0.00	0.00	0.01	0.01
Qatar	0.17	0.19	0.03	0.04	0.05	0.06
Russian Federation	0.12	0.09	0.01	0.01	0.02	0.01
Saudi Arabia	0.23	0.25	0.05	0.06	0.05	0.06
Serbia	0.05	0.06	0.00	0.00	0.01	0.02
Singapore	0.17	0.16	0.03	0.03	0.04	0.04
Slovak Republic	0.12	0.13	0.02	0.02	0.02	0.02
Slovenia	0.08	0.09	0.01	0.01	0.02	0.02
South Africa (5)	0.26	-	0.07	-	0.08	-
Spain	0.10	0.10	0.01	0.01	0.01	0.01
Sweden	0.11	0.12	0.01	0.01	0.03	0.03
Turkey	0.22	0.22	0.05	0.05	0.07	0.06
United Arab Emirates	0.16	0.19	0.02	0.04	0.04	0.05
United States	0.12	0.12	0.01	0.01	0.03	0.03
International Median	0.11	0.10	0.01	0.01	0.02	0.02
Benchmarking Participants						
Buenos Aires, Argentina	0.10	0.06	0.01	0.00	0.03	0.01
Ontario, Canada	0.12	0.13	0.01	0.02	0.02	0.02
Quebec, Canada	0.07	0.10	0.01	0.01	0.02	0.03
Norway (4)	0.10	0.11	0.01	0.01	0.02	0.02
Abu Dhabi, UAE	0.15	0.19	0.02	0.04	0.04	0.06
Dubai, UAE	0.12	0.15	0.01	0.02	0.03	0.04
Florida, US	0.14	0.17	0.02	0.03	0.04	0.04

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

A dash (-) indicates comparable data not available.