

# Students' Sense of School Belonging Scale, Eighth Grade

The Students' Sense of School Belonging (SSB) scale was created based on students' degree of agreement with the seven statements described below.

## Items in the TIMSS 2015 Students' Sense of School Belonging, Eighth Grade

What do you think about your school? Tell how much you agree with these statements.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
BSBG15A 1) I like being in school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBG15B 2) I feel safe when I am at school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBG15C 3) I feel like I belong at this school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBG15D 4) I like to see my classmates at school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBG15E 5) Teachers at my school are fair to me -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBG15F 6) I am proud to go to this school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BSBG15G 7) I learn a lot in school -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

High Sense of School Belonging 10.3    Sense of School Belonging 7.5    Little Sense of School Belonging

**Item Parameters for the TIMSS 2015 Students' Sense of School Belonging Scale, Eighth Grade**

Item	delta	tau_1	tau_2	tau_3	Infit
BSBG15A	0.38218	-0.95870	-0.74432	1.70302	1.01
BSBG15B	0.07288	-0.94599	-0.58632	1.53231	0.99
BSBG15C	0.21160	-0.83609	-0.55012	1.38621	0.94
BSBG15D	-0.73119	-0.52286	-0.46686	0.98972	1.17
BSBG15E	0.20067	-0.98123	-0.56256	1.54379	1.12
BSBG15F	0.26647	-0.76246	-0.50391	1.26637	0.91
BSBG15G	-0.40261	-0.89880	-0.61886	1.51766	0.98

**Scale Transformation Constants for the TIMSS 2015 Students' Sense of School Belonging Scale, Eighth Grade**

Scale Transformation Constants	
A = 7.847376	Transformed Scale Score = 7.847376 + 1.363355 • Logit Scale Score
B = 1.363355	

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

**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS  
2015 Students' Sense of School Belonging Scale, Eighth Grade**

Raw Score	Transformed Scale Score	Cutpoint
0	3.04846	
1	4.43161	
2	5.08351	
3	5.53680	
4	5.89159	
5	6.19976	
6	6.47840	
7	6.73927	
8	6.99036	
9	7.23785	
10	7.48892	7.5
11	7.74446	
12	8.01437	
13	8.30564	
14	8.62531	
15	8.98361	
16	9.39043	
17	9.85678	
18	10.39858	10.3
19	11.05536	
20	11.94384	
21	13.62245	

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 Students' Sense of School Belonging Scale, Eighth Grade**

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item						
			BS8G15A	BS8G15B	BS8G15C	BS8G15D	BS8G15E	BS8G15F	BS8G15G
Australia	0.86	55	0.75	0.75	0.81	0.55	0.70	0.84	0.75
Bahrain	0.83	50	0.73	0.73	0.77	0.51	0.65	0.80	0.70
Botswana (9)	0.68	36	0.66	0.65	0.64	0.53	0.42	0.66	0.59
Canada	0.83	49	0.70	0.72	0.76	0.59	0.64	0.81	0.70
Chile	0.85	53	0.71	0.77	0.77	0.60	0.66	0.82	0.72
Chinese Taipei	0.82	49	0.71	0.72	0.77	0.62	0.59	0.75	0.69
Egypt	0.81	47	0.69	0.71	0.77	0.47	0.63	0.76	0.71
England	0.84	51	0.74	0.72	0.80	0.48	0.67	0.82	0.72
Georgia	0.76	41	0.54	0.66	0.66	0.53	0.65	0.76	0.67
Hong Kong SAR	0.87	57	0.77	0.80	0.84	0.63	0.66	0.78	0.75
Hungary	0.80	46	0.73	0.69	0.78	0.50	0.62	0.79	0.58
Iran, Islamic Rep. of	0.72	40	0.69	0.73	0.70	0.52	0.65	0.40	0.67
Ireland	0.84	51	0.71	0.72	0.79	0.55	0.67	0.80	0.73
Israel	0.85	53	0.75	0.72	0.79	0.55	0.69	0.82	0.72
Italy	0.81	46	0.71	0.71	0.74	0.48	0.63	0.80	0.65
Japan	0.87	57	0.81	0.79	0.81	0.73	0.63	0.80	0.69
Jordan	0.82	48	0.70	0.70	0.79	0.54	0.59	0.79	0.71
Kazakhstan	0.80	46	0.67	0.62	0.72	0.61	0.69	0.76	0.67
Korea, Rep. of	0.86	54	0.77	0.76	0.76	0.71	0.62	0.78	0.73
Kuwait	0.80	45	0.69	0.71	0.75	0.47	0.61	0.79	0.64
Lebanon	0.78	44	0.64	0.72	0.75	0.55	0.55	0.72	0.66
Lithuania	0.79	45	0.71	0.73	0.68	0.56	0.63	0.75	0.60
Malaysia	0.80	45	0.72	0.69	0.61	0.55	0.65	0.78	0.69
Malta	0.84	51	0.74	0.74	0.79	0.51	0.64	0.82	0.74
Morocco	0.75	41	0.63	0.65	0.70	0.45	0.57	0.75	0.68
New Zealand	0.84	51	0.75	0.69	0.80	0.58	0.66	0.81	0.71
Norway (9)	0.84	52	0.74	0.75	0.81	0.60	0.66	0.75	0.70
Oman	0.80	45	0.66	0.69	0.74	0.53	0.64	0.76	0.67
Qatar	0.87	56	0.76	0.76	0.81	0.57	0.70	0.84	0.75
Russian Federation	0.81	48	0.72	0.71	0.74	0.58	0.63	0.77	0.65
Saudi Arabia	0.82	48	0.71	0.72	0.79	0.50	0.61	0.79	0.69
Singapore	0.86	54	0.77	0.75	0.83	0.62	0.63	0.82	0.71
Slovenia	0.84	52	0.70	0.75	0.76	0.51	0.69	0.83	0.74
South Africa (9)	0.72	38	0.63	0.63	0.72	0.50	0.45	0.73	0.61
Sweden	0.83	49	0.72	0.68	0.78	0.57	0.66	0.78	0.68
Thailand	0.76	42	0.62	0.65	0.65	0.47	0.68	0.72	0.69
Turkey	0.78	44	0.70	0.73	0.69	0.55	0.52	0.74	0.68
United Arab Emirates	0.88	58	0.72	0.78	0.78	0.72	0.70	0.82	0.81
United States	0.84	52	0.70	0.71	0.79	0.59	0.69	0.82	0.71
<b>Benchmarking Participants</b>									
Buenos Aires, Argentina	0.80	46	0.68	0.68	0.71	0.59	0.59	0.78	0.70
Ontario, Canada	0.84	51	0.71	0.72	0.77	0.60	0.64	0.82	0.70
Quebec, Canada	0.80	45	0.68	0.72	0.71	0.57	0.59	0.76	0.67
Norway (8)	0.84	52	0.71	0.74	0.81	0.63	0.64	0.78	0.70
Abu Dhabi, UAE	0.88	57	0.73	0.78	0.77	0.71	0.69	0.81	0.79
Dubai, UAE	0.86	55	0.69	0.75	0.76	0.68	0.67	0.82	0.79
Florida, US	0.85	52	0.72	0.72	0.78	0.59	0.67	0.84	0.73

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

**Relationship Between the TIMSS 2015 Students' Sense of School Belonging Scale, Eighth Grade, and TIMSS 2015 Achievement**

Country	Pearson's Correlation with Achievement				Variance in Achievement Accounted for by Difference Between Regions of the Scale ( $\eta^2$ )	
	(r)		(r)		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Australia	0.29	0.29	0.08	0.09	0.07	0.07
Bahrain	0.15	0.15	0.02	0.02	0.02	0.02
Botswana (9)	0.16	0.19	0.02	0.04	0.02	0.03
Canada	0.16	0.16	0.03	0.03	0.03	0.02
Chile	0.12	0.11	0.01	0.01	0.01	0.01
Chinese Taipei	0.15	0.15	0.02	0.02	0.02	0.02
Egypt	0.07	0.07	0.00	0.01	0.00	0.01
England	0.27	0.27	0.08	0.07	0.06	0.06
Georgia	0.08	0.09	0.01	0.01	0.01	0.01
Hong Kong SAR	0.23	0.19	0.05	0.04	0.05	0.03
Hungary	0.17	0.15	0.03	0.02	0.02	0.01
Iran, Islamic Rep. of	0.02	0.02	0.00	0.00	0.00	0.00
Ireland	0.20	0.21	0.04	0.04	0.04	0.04
Israel	0.03	0.06	0.00	0.00	0.01	0.01
Italy	0.09	0.06	0.01	0.00	0.01	0.00
Japan	0.12	0.10	0.02	0.01	0.01	0.01
Jordan	0.01	0.04	0.00	0.00	0.00	0.00
Kazakhstan	0.07	0.05	0.01	0.00	0.00	0.00
Korea, Rep. of	0.13	0.11	0.02	0.01	0.02	0.01
Kuwait	0.10	0.06	0.01	0.00	0.01	0.01
Lebanon	0.02	0.06	0.00	0.00	0.00	0.01
Lithuania	0.02	0.02	0.00	0.00	0.00	0.00
Malaysia	0.03	0.15	0.00	0.02	0.01	0.04
Malta	0.26	0.24	0.07	0.06	0.07	0.05
Morocco	-0.01	0.02	0.00	0.00	0.00	0.00
New Zealand	0.20	0.18	0.04	0.03	0.03	0.03
Norway (9)	0.16	0.16	0.03	0.02	0.03	0.03
Oman	0.10	0.11	0.01	0.01	0.01	0.01
Qatar	0.20	0.22	0.04	0.05	0.04	0.05
Russian Federation	0.07	0.03	0.01	0.00	0.00	0.00
Saudi Arabia	0.04	0.08	0.00	0.01	0.01	0.01
Singapore	0.19	0.18	0.04	0.03	0.03	0.03
Slovenia	0.12	0.14	0.02	0.02	0.01	0.02
South Africa (9)	0.03	0.03	0.00	0.00	0.00	0.00
Sweden	0.18	0.17	0.03	0.03	0.03	0.03
Thailand	0.04	0.02	0.00	0.00	0.00	0.00
Turkey	-0.01	0.01	0.00	0.00	0.00	0.00
United Arab Emirates	0.29	0.30	0.09	0.09	0.08	0.08
United States	0.23	0.21	0.05	0.05	0.05	0.04
<b>International Median</b>	<b>0.12</b>	<b>0.11</b>	<b>0.02</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>
<b>Benchmarking Participants</b>						
Buenos Aires, Argentina	0.12	0.11	0.02	0.01	0.01	0.01
Ontario, Canada	0.17	0.16	0.03	0.03	0.03	0.03
Quebec, Canada	0.20	0.17	0.04	0.03	0.03	0.03
Norway (8)	0.17	0.15	0.03	0.02	0.03	0.03
Abu Dhabi, UAE	0.24	0.22	0.06	0.05	0.06	0.05
Dubai, UAE	0.28	0.29	0.08	0.09	0.08	0.08
Florida, US	0.17	0.17	0.03	0.03	0.03	0.03

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