

TIMSS 2011

The TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Eighth Grade

The School Emphasis on Academic Success–Principal Reports (EAS–P) scale was created based on principals’ responses to 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 TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Eighth Grade

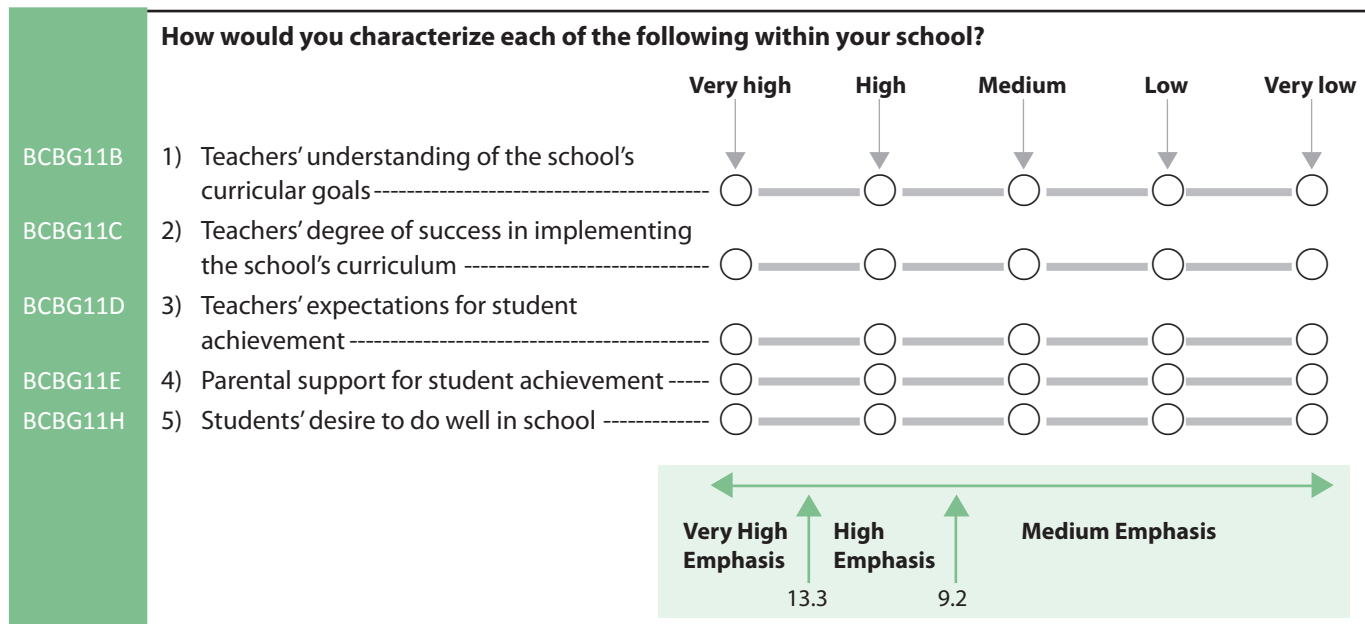


Exhibit 2: Item Parameters for the TIMSS 2011 School Emphasis on Academic Success–Principal Reports, Eighth Grade¹

Item	delta	tau_1	tau_2	tau_3
BCBG11B	0.09365	–2.00331	2.00331	
BCBG11C	0.66940	–1.85212	1.85212	
BCBG11D	0.85233	–1.60375	1.60375	
BCBG11E	0.94290	–2.61345	0.22343	2.39002
BCBG11H	–0.09726	–3.33534	0.20264	3.13270

¹ For the purpose of scaling, categories in which there were very few respondents were combined for several of the variables. The categories “Medium,” “Low,” and “Very low” were combined for variables BCBG11B, BCBG11C, and BCBG11D, and the categories “Low” and “Very low” were combined for variables BCBG11E and BCBG11H, respectively.

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

$$A = 9.99075$$

$$B = 1.07755$$

$$\text{Transformed Scale Score} = 9.99075 + 1.07755 \cdot \text{Logit Scale Score}$$

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	4.90872		7	11.37409	
1	6.59699		8	12.04600	
2	7.60945		9	12.68705	
3	8.41061		10	13.35079	13.3
4	9.14166	9.2	11	14.16546	
5	9.88165		12	15.56893	
6	10.64201				

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Eighth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			BCBG11B	BCBG11C	BCBG11D	BCBG11E	BCBG11H
Armenia	0.59	39	0.48	0.34	0.74	0.74	0.71
Australia	0.87	67	0.72	0.84	0.85	0.84	0.83
Bahrain	0.72	49	0.71	0.69	0.76	0.79	0.50
Chile	0.87	66	0.76	0.84	0.83	0.82	0.81
Chinese Taipei	0.70	46	0.53	0.64	0.75	0.76	0.69
England	0.84	63	0.68	0.86	0.82	0.75	0.84
Finland	0.72	47	0.73	0.72	0.77	0.49	0.70
Georgia	0.70	47	0.69	0.77	0.66	0.53	0.74
Ghana	0.74	50	0.63	0.76	0.64	0.75	0.73
Hong Kong SAR	0.79	56	0.59	0.85	0.78	0.69	0.79
Hungary	0.77	53	0.56	0.80	0.71	0.79	0.74
Indonesia	0.78	55	0.74	0.75	0.67	0.77	0.77
Iran, Islamic Rep. of	0.74	51	0.76	0.76	0.64	0.68	0.70
Israel	0.70	46	0.59	0.68	0.72	0.71	0.67
Italy	0.69	45	0.63	0.68	0.60	0.71	0.72
Japan	0.70	46	0.68	0.68	0.71	0.61	0.71
Jordan	0.75	51	0.69	0.75	0.73	0.72	0.68
Kazakhstan	0.80	56	0.68	0.84	0.72	0.77	0.72
Korea, Rep. of	0.85	64	0.84	0.80	0.80	0.74	0.80
Lebanon	0.75	50	0.61	0.71	0.78	0.73	0.71
Lithuania	0.71	47	0.73	0.74	0.71	0.66	0.58
Macedonia, Rep. of	0.73	50	0.77	0.79	0.74	0.66	0.54

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Eighth Grade (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			BCBG11B	BCBG11C	BCBG11D	BCBG11E	BCBG11H
Malaysia	0.79	55	0.69	0.77	0.77	0.79	0.69
Morocco	0.82	59	0.79	0.85	0.73	0.77	0.69
New Zealand	0.85	63	0.75	0.83	0.84	0.77	0.77
Norway	0.75	50	0.71	0.78	0.76	0.64	0.65
Oman	0.73	49	0.70	0.76	0.71	0.66	0.67
Palestinian Nat'l Auth.	0.67	44	0.74	0.72	0.65	0.63	0.58
Qatar	0.78	54	0.75	0.85	0.75	0.63	0.68
Romania	0.79	55	0.60	0.78	0.73	0.76	0.80
Russian Federation	0.66	43	0.53	0.74	0.64	0.65	0.69
Saudi Arabia	0.79	56	0.72	0.82	0.83	0.66	0.70
Singapore	0.87	67	0.79	0.83	0.87	0.79	0.81
Slovenia	0.73	48	0.62	0.70	0.68	0.76	0.72
Sweden	0.73	48	0.59	0.76	0.77	0.65	0.69
Syrian Arab Republic	0.77	53	0.68	0.78	0.74	0.81	0.62
Thailand	0.77	54	0.75	0.86	0.64	0.68	0.72
Tunisia	0.73	50	0.83	0.77	0.65	0.64	0.60
Turkey	0.77	53	0.72	0.79	0.64	0.74	0.73
Ukraine	0.65	42	0.50	0.68	0.62	0.64	0.77
United Arab Emirates	0.80	57	0.75	0.78	0.77	0.73	0.73
United States	0.81	59	0.67	0.84	0.82	0.73	0.75
Ninth Grade Participants							
Botswana	0.71	48	0.73	0.83	0.75	0.52	0.60
Honduras	0.72	48	0.77	0.77	0.73	0.55	0.63
South Africa	0.81	58	0.75	0.82	0.77	0.73	0.73
Benchmarking Participants							
Alberta, Canada	0.76	53	0.70	0.76	0.81	0.62	0.75
Ontario, Canada	0.81	58	0.76	0.77	0.79	0.73	0.74
Quebec, Canada	0.79	55	0.71	0.76	0.72	0.76	0.75
Abu Dhabi, UAE	0.80	57	0.79	0.80	0.74	0.71	0.73
Dubai, UAE	0.84	62	0.76	0.83	0.86	0.73	0.75
Alabama, US	0.83	62	0.77	0.81	0.88	0.76	0.72
California, US	0.81	57	0.64	0.85	0.82	0.72	0.74
Colorado, US	0.84	62	0.71	0.85	0.80	0.85	0.73
Connecticut, US	0.85	63	0.69	0.86	0.83	0.82	0.74
Florida, US	0.82	59	0.68	0.89	0.85	0.70	0.70
Indiana, US	0.81	60	0.76	0.91	0.87	0.44	0.81
Massachusetts, US	0.86	66	0.72	0.87	0.82	0.79	0.85
Minnesota, US	0.73	49	0.69	0.81	0.78	0.70	0.48
North Carolina, US	0.81	58	0.65	0.87	0.88	0.77	0.57

Exhibit 6: Relationship Between the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Eighth Grade, and TIMSS 2011 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		
Armenia	0.13	0.12	0.02	0.01	0.01	0.01
Australia	0.40	0.33	0.16	0.11	0.14	0.11
Bahrain	0.37	0.35	0.14	0.12	0.11	0.10
Chile	0.33	0.30	0.11	0.09	0.09	0.07
Chinese Taipei	0.28	0.24	0.08	0.06	0.07	0.06
England	0.19	0.20	0.04	0.04	0.03	0.03
Finland	0.14	0.14	0.02	0.02	0.01	0.01
Georgia	0.14	0.11	0.02	0.01	0.01	0.01
Ghana	0.21	0.22	0.04	0.05	0.03	0.04
Hong Kong SAR	0.42	0.36	0.18	0.13	0.14	0.10
Hungary	0.29	0.26	0.08	0.07	0.05	0.04
Indonesia	0.11	0.10	0.01	0.01	0.02	0.01
Iran, Islamic Rep. of	0.19	0.20	0.04	0.04	0.04	0.04
Israel	0.22	0.20	0.05	0.04	0.07	0.06
Italy	0.08	0.08	0.01	0.01	0.00	0.00
Japan	0.20	0.16	0.04	0.03	0.03	0.02
Jordan	0.23	0.23	0.05	0.05	0.03	0.03
Kazakhstan	-0.05	-0.09	0.00	0.01	0.01	0.02
Korea, Rep. of	0.15	0.13	0.02	0.02	0.02	0.01
Lebanon	0.30	0.30	0.09	0.09	0.07	0.09
Lithuania	0.15	0.11	0.02	0.01	0.02	0.01
Macedonia, Rep. of	0.21	0.20	0.04	0.04	0.03	0.03
Malaysia	0.17	0.18	0.03	0.03	0.06	0.07
Morocco	0.37	0.31	0.13	0.10	0.13	0.09
New Zealand	0.23	0.22	0.05	0.05	0.03	0.03
Norway	0.16	0.15	0.02	0.02	0.01	0.01
Oman	0.21	0.22	0.05	0.05	0.03	0.03
Palestinian Nat'l Auth.	0.09	0.06	0.01	0.00	0.01	0.00
Qatar	0.21	0.19	0.04	0.04	0.04	0.03
Romania	0.25	0.21	0.06	0.04	0.05	0.04
Russian Federation	0.16	0.14	0.02	0.02	0.02	0.01
Saudi Arabia	0.21	0.18	0.04	0.03	0.04	0.02
Singapore	0.28	0.30	0.08	0.09	0.04	0.05
Slovenia	0.08	0.06	0.01	0.00	0.00	0.00
Sweden	0.17	0.16	0.03	0.03	0.01	0.01
Syrian Arab Republic	0.01	0.02	0.00	0.00	0.01	0.01
Thailand	0.07	0.07	0.00	0.00	0.00	0.00

Exhibit 6: Relationship Between the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Eighth Grade, and TIMSS 2011 Achievement (Continued)

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		
Tunisia	0.11	0.10	0.01	0.01	0.02	0.01
Turkey	0.32	0.30	0.10	0.09	0.06	0.06
Ukraine	0.15	0.12	0.02	0.01	0.03	0.02
United Arab Emirates	0.26	0.24	0.07	0.06	0.05	0.04
United States	0.31	0.31	0.10	0.09	0.08	0.08
International Median	0.20	0.19	0.04	0.04	0.03	0.03
Ninth Grade Participants						
Botswana	0.23	0.23	0.06	0.05	0.06	0.05
Honduras	0.07	0.07	0.01	0.00	0.02	0.02
South Africa	0.23	0.22	0.05	0.05	0.07	0.07
Benchmarking Participants						
Alberta, Canada	0.12	0.13	0.01	0.02	0.01	0.01
Ontario, Canada	0.15	0.11	0.02	0.01	0.02	0.01
Quebec, Canada	0.19	0.20	0.04	0.04	0.03	0.03
Abu Dhabi, UAE	0.21	0.18	0.05	0.03	0.04	0.03
Dubai, UAE	0.33	0.33	0.11	0.11	0.10	0.10
Alabama, US	0.22	0.24	0.05	0.06	0.06	0.05
California, US	0.19	0.18	0.03	0.03	0.07	0.07
Colorado, US	0.07	0.06	0.00	0.00	0.01	0.01
Connecticut, US	0.29	0.29	0.08	0.08	0.14	0.14
Florida, US	-0.04	-0.02	0.00	0.00	0.00	0.00
Indiana, US	0.04	0.06	0.00	0.00	0.00	0.00
Massachusetts, US	0.21	0.23	0.04	0.05	0.02	0.03
Minnesota, US	0.07	0.04	0.00	0.00	0.00	0.00
North Carolina, US	0.24	0.24	0.06	0.06	0.05	0.05