

School Discipline Problems–Principals’ Reports Scale, Eighth Grade

The School Discipline Problems–Principals’ Reports (DAS) scale was created based on principals’ responses concerning the eleven potential school problems described below.

Items in the TIMSS 2015 School Discipline Problems–Principals’ Reports Scale, Eighth Grade

		To what degree is each of the following a problem among eighth grade students in your school?			
		Not a problem	Minor problem	Moderate problem	Serious problem
T	BCBG15A	1) Arriving late at school -----○	○	○	○
T	BCBG15B	2) Absenteeism (i.e., unjustified absences) -----○	○	○	○
T	BCBG15C	3) Classroom disturbance -----○	○	○	○
T	BCBG15D	4) Cheating -----○	○	○	○
T	BCBG15E	5) Profanity -----○	○	○	○
T	BCBG15F	6) Vandalism -----○	○	○	○
T	BCBG15G	7) Theft -----○	○	○	○
T	BCBG15H	8) Intimidation or verbal abuse among students (including texting, emailing, etc.) -----○	○	○	○
T	BCBG15I	9) Physical injury to other students -----○	○	○	○
T	BCBG15J	10) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.) -----○	○	○	○
T	BCBG15K	11) Physical injury to teachers or staff -----○	○	○	○

Hardly Any Problems Minor Problems Moderate to Severe Problems

10.8 8.0

T Trend item—item was included in the same scale in TIMSS 2011 and was used for linking the TIMSS 2011 and TIMSS 2015 scales.

Item Parameters for the TIMSS 2015 School Discipline Problems - Principals' Reports Scale, Eighth Grade

Item	delta	tau_1	tau_2	tau_3	Infit
BCBG15A	0.35543	-2.45404	-0.50450	2.95854	1.38
BCBG15B	0.81556	-1.87731	-0.68567	2.56298	1.13
BCBG15C	0.70602	-2.36267	-0.37850	2.74117	1.00
BCBG15D	-0.17898	-1.54132	-0.62883	2.17015	1.09
BCBG15E	0.40992	-1.72903	-0.46635	2.19538	0.88
BCBG15F	0.06453	-0.93256	-0.64660	1.57916	0.84
BCBG15G	-0.34720	-0.36836	-1.00450	1.37286	0.83
BCBG15H	0.40049	-1.81251	-0.70589	2.51840	0.90
BCBG15I	-0.28471	-0.92448	-0.85294	1.77742	0.78
BCBG15J	-0.70539	-0.40379	-0.86401	1.26780	0.87
BCBG15K	-1.23567	1.05912	-0.69101	-0.36811	0.86

Scale Transformation Constants for the TIMSS 2015 School Discipline Problems - Principals' Reports Scale, Eighth Grade

Scale Transformation Constants	
A = 8.418512	Transformed Scale Score = 8.418512 + 0.981214 • Logit Scale Score
B = 0.981214	

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

**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS
2015 School Discipline Problems - Principals' Reports Scale, Eighth
Grade**

Raw Score	Transformed Scale Score	Cutpoint
0	4.07274	
1	5.16684	
2	5.67741	
3	6.01327	
4	6.26434	
5	6.46647	
6	6.63787	
7	6.78911	
8	6.92690	
9	7.05599	
10	7.17997	
11	7.30166	
12	7.42228	
13	7.54644	
14	7.67382	
15	7.80615	
16	7.94503	8.0
17	8.09232	
18	8.24902	
19	8.41762	
20	8.60012	
21	8.79847	
22	9.01619	
23	9.25431	
24	9.51506	
25	9.79961	
26	10.10915	
27	10.44316	
28	10.80339	10.8
29	11.19421	
30	11.62747	
31	12.13360	
32	12.80087	
33	14.02734	

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 School Discipline Problems - Principals' Reports Scale, Eighth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item										
			BCBG15A	BCBG15B	BCBG15C	BCBG15D	BCBG15E	BCBG15F	BCBG15G	BCBG15H	BCBG15I	BCBG15J	BCBG15K
Australia	0.87	44	0.64	0.67	0.74	0.58	0.75	0.80	0.62	0.66	0.73	0.69	0.36
Bahrain	0.97	75	0.72	0.83	0.84	0.84	0.86	0.91	0.90	0.89	0.86	0.93	0.90
Botswana (9)	0.89	47	0.57	0.63	0.63	0.74	0.72	0.68	0.80	0.75	0.75	0.67	0.55
Canada	0.87	45	0.64	0.63	0.71	0.59	0.76	0.79	0.78	0.71	0.71	0.68	0.26
Chile	0.88	48	0.57	0.63	0.68	0.65	0.83	0.78	0.76	0.74	0.77	0.71	0.37
Chinese Taipei	0.90	50	0.67	0.75	0.76	0.68	0.77	0.79	0.77	0.67	0.74	0.67	0.39
Egypt	0.95	67	0.54	0.54	0.82	0.77	0.90	0.87	0.90	0.88	0.88	0.89	0.87
England	0.81	35	0.68	0.73	0.82	0.24	0.65	0.61	0.42	0.70	0.60	0.55	0.09
Georgia	0.91	55	0.59	0.66	0.70	0.57	0.78	0.74	0.84	0.72	0.81	0.84	0.84
Hong Kong SAR	0.86	44	0.73	0.69	0.71	0.60	0.68	0.76	0.69	0.60	0.70	0.65	0.44
Hungary	0.90	51	0.58	0.58	0.78	0.68	0.75	0.80	0.72	0.83	0.84	0.76	0.42
Iran, Islamic Rep. of	0.92	58	0.69	0.74	0.71	0.69	0.81	0.76	0.80	0.79	0.80	0.78	0.76
Ireland	0.88	46	0.66	0.64	0.71	0.60	0.78	0.73	0.62	0.76	0.65	0.78	0.50
Israel	0.95	66	0.68	0.78	0.77	0.82	0.81	0.81	0.84	0.83	0.86	0.86	0.84
Italy	0.91	52	0.47	0.68	0.56	0.41	0.57	0.86	0.85	0.68	0.86	0.89	0.85
Japan	0.92	60	0.62	0.40	0.85	0.82	0.90	0.85	0.77	0.71	0.85	0.77	0.83
Jordan	0.95	68	0.67	0.70	0.73	0.80	0.87	0.86	0.89	0.88	0.90	0.87	0.86
Kazakhstan	0.97	80	0.84	0.90	0.88	0.66	0.92	0.95	0.94	0.94	0.94	0.95	0.88
Korea, Rep. of	0.94	63	0.68	0.80	0.74	0.83	0.83	0.84	0.80	0.78	0.86	0.81	0.73
Kuwait	0.95	66	0.49	0.66	0.72	0.86	0.89	0.87	0.87	0.84	0.89	0.90	0.86
Lebanon	0.97	79	0.82	0.86	0.82	0.83	0.90	0.92	0.94	0.88	0.94	0.92	0.92
Lithuania	0.85	40	0.62	0.65	0.71	0.66	0.74	0.61	0.56	0.77	0.63	0.65	0.08
Malaysia	0.88	49	0.56	0.48	0.64	0.77	0.83	0.80	0.79	0.77	0.72	0.71	0.52
Malta	0.93	60	0.64	0.86	0.80	0.77	0.83	0.83	0.80	0.73	0.84	0.84	0.52
Morocco	0.94	65	0.49	0.65	0.84	0.79	0.85	0.88	0.92	0.82	0.87	0.87	0.82
New Zealand	0.88	46	0.65	0.64	0.69	0.53	0.79	0.70	0.64	0.68	0.74	0.77	0.61
Norway (9)	0.83	38	0.60	0.57	0.69	0.63	0.71	0.65	0.47	0.70	0.68	0.69	0.33
Oman	0.97	74	0.73	0.82	0.78	0.86	0.90	0.86	0.90	0.89	0.90	0.91	0.90
Qatar	0.97	78	0.55	0.76	0.83	0.93	0.92	0.93	0.95	0.92	0.95	0.92	0.93
Russian Federation	0.81	36	0.66	0.63	0.66	0.56	0.61	0.65	0.68	0.72	0.65	0.38	0.07
Saudi Arabia	0.97	73	0.56	0.70	0.82	0.92	0.86	0.90	0.91	0.91	0.93	0.92	0.92
Singapore	0.88	50	0.65	0.69	0.68	0.68	0.75	0.71	0.80	0.76	0.69	0.64	-
Slovenia	0.90	50	0.71	0.67	0.75	0.74	0.82	0.74	0.61	0.77	0.81	0.70	0.29
South Africa (9)	0.91	51	0.73	0.81	0.69	0.70	0.74	0.80	0.78	0.77	0.76	0.64	0.38
Sweden	0.84	39	0.63	0.75	0.56	0.46	0.73	0.68	0.67	0.68	0.74	0.62	0.19
Thailand	0.89	48	0.66	0.63	0.70	0.79	0.64	0.80	0.80	0.76	0.77	0.55	0.46
Turkey	0.95	66	0.71	0.72	0.78	0.80	0.73	0.83	0.87	0.86	0.88	0.88	0.84
United Arab Emirates	0.93	60	0.67	0.73	0.77	0.78	0.84	0.84	0.78	0.79	0.82	0.81	0.68
United States	0.88	46	0.67	0.65	0.71	0.56	0.75	0.72	0.73	0.71	0.76	0.70	0.36
Benchmarking Participants													
Buenos Aires, Argentina	0.86	46	0.66	0.72	0.74	0.61	0.68	0.70	0.76	0.65	0.83	0.60	0.39
Ontario, Canada	0.88	46	0.64	0.59	0.73	0.62	0.77	0.81	0.80	0.77	0.69	0.61	0.24
Quebec, Canada	0.87	46	0.61	0.61	0.63	0.51	0.83	0.78	0.77	0.66	0.81	0.80	0.27
Norway (8)	0.79	34	0.44	0.64	0.61	0.73	0.71	0.60	0.59	0.48	0.57	0.44	0.52
Abu Dhabi, UAE	0.90	55	0.66	0.71	0.75	0.69	0.82	0.83	0.76	0.76	0.78	0.78	0.61
Dubai, UAE	0.92	57	0.55	0.62	0.77	0.82	0.84	0.82	0.79	0.72	0.82	0.74	0.75
Florida, US	0.91	53	0.80	0.76	0.76	0.71	0.83	0.49	0.81	0.75	0.83	0.82	0.25

A dash (-) indicates comparable data not available.

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

Relationship Between the TIMSS 2015 School Discipline Problems - Principals' Reports 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 (η^2)	
	(r)		(r)		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Australia	0.29	0.26	0.08	0.07	0.07	0.05
Bahrain	0.14	0.15	0.02	0.02	0.02	0.04
Botswana (9)	0.23	0.21	0.05	0.04	0.04	0.04
Canada	0.10	0.08	0.01	0.01	0.01	0.01
Chile	0.22	0.23	0.05	0.05	0.04	0.04
Chinese Taipei	0.24	0.23	0.06	0.06	0.06	0.05
Egypt	0.02	0.03	0.00	0.00	0.00	0.00
England	0.23	0.22	0.05	0.05	0.02	0.02
Georgia	-0.07	-0.04	0.01	-0.00	0.00	0.00
Hong Kong SAR	0.27	0.23	0.07	0.05	0.04	0.03
Hungary	0.29	0.28	0.08	0.08	0.09	0.08
Iran, Islamic Rep. of	0.11	0.09	0.01	0.01	0.01	0.01
Ireland	0.20	0.18	0.04	0.03	0.03	0.03
Israel	0.22	0.22	0.05	0.05	0.04	0.05
Italy	-0.01	0.01	0.00	0.00	0.00	0.00
Japan	0.08	0.07	0.01	0.01	0.01	0.01
Jordan	0.01	0.02	0.00	0.00	0.01	0.01
Kazakhstan	0.08	0.10	0.01	0.01	0.01	0.02
Korea, Rep. of	-0.07	-0.05	0.01	-0.00	0.00	0.00
Kuwait	0.15	0.21	0.02	0.04	0.03	0.04
Lebanon	0.05	0.03	0.00	0.00	0.01	0.01
Lithuania	0.09	0.08	0.01	0.01	0.01	0.01
Malaysia	0.17	0.18	0.03	0.03	0.02	0.02
Malta	0.26	0.27	0.07	0.07	0.09	0.10
Morocco	0.05	0.06	0.00	0.00	0.01	0.01
New Zealand	0.18	0.19	0.03	0.03	0.03	0.03
Norway (9)	0.08	0.10	0.01	0.01	0.00	0.00
Oman	0.10	0.08	0.01	0.01	0.01	0.01
Qatar	0.04	0.03	0.00	0.00	0.00	0.00
Russian Federation	0.19	0.21	0.04	0.04	0.01	0.02
Saudi Arabia	0.09	0.15	0.01	0.02	0.02	0.04
Singapore	0.26	0.24	0.07	0.06	0.03	0.03
Slovenia	0.07	0.08	0.00	0.01	0.00	0.00
South Africa (9)	0.20	0.19	0.04	0.04	0.05	0.04
Sweden	0.16	0.18	0.02	0.03	0.03	0.03
Thailand	0.11	0.12	0.01	0.01	0.01	0.02
Turkey	0.13	0.13	0.02	0.02	0.03	0.03
United Arab Emirates	0.24	0.25	0.06	0.06	0.03	0.03
United States	0.27	0.28	0.07	0.08	0.05	0.05
International Median	0.14	0.15	0.02	0.02	0.02	0.02
Benchmarking Participants						
Buenos Aires, Argentina	0.32	0.28	0.10	0.08	0.06	0.04
Ontario, Canada	0.08	0.05	0.01	0.00	0.01	0.00
Quebec, Canada	0.10	0.08	0.01	0.01	0.01	0.01
Norway (8)	0.05	0.07	0.00	0.00	0.01	0.01
Abu Dhabi, UAE	0.18	0.19	0.03	0.04	0.01	0.01
Dubai, UAE	0.30	0.31	0.09	0.10	0.05	0.06
Florida, US	0.03	0.02	0.00	0.00	0.10	0.11

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